THE JOURNAL
of the
KANSAS MEDICAL SOCIETY
Owned and Published by The Kansas Medical Society

Volume LI AUGUST, 1950 No. 8

Fractures of the Femoral Shaft

Charles Rombold, M.D., H. O. Anderson, M.D., H. O. Marsh, M.D., and J. F. Lance, M.D.
Wichita, Kansas

The two aspects which make fractures of the femoral shaft an important problem are the economic and treatment factors.

From the economic aspect, fractures of the shaft of the femur are the most serious of all fractures. They are serious economically, not only because of the long period of hospitalization necessitated in their care, and the long subsequent course of rehabilitation, but also because of the probability of a permanent partial disability, with resultant decreased income. These factors are inherent in any fractured femur. A fractured femur means not only loss of immediate income for a year but also a drain on the patient's capital through months of hospitalization, and a probable decrease in earning power after healing has been completed. Totalling the loss of these three factors, loss of income during treatment, cost of treatment, and residual decrease of earning capacity, a fractured femur often results in bankruptcy of the patient. It is depressing to realize how frequently we physicians aid the bankruptcy proceedings.

From the treatment aspect fractures of the shaft of the femur are, in the hands of most of us, the most difficult of all fractures. Speed once labeled fractures of the neck of the femur the "unsolved fracture." With the advent of internal fixation for fractured hips the label may well have gravitated down the femur to the shaft. The multiplicity of methods of treatment and the total lack of agreement among the advocates of each method, as well as the conflict of reported results of the various methods of treatment, indicate confusion in the strategy of the attack on this problem. Much of this confusion is a result of unwarranted emphasis by the proponents of specific methods of treatment on individual components of the problem, rather than a total evaluation of all of them.

The advocates of internal fixation emphasize the short hospitalization period and minimize both the longer healing periods and the increased residual disability resulting from treatment by that procedure.

The advocates of external fixation emphasize the short hospitalization period, early ambulation, and early joint motion and fail to mention the longer total healing period, increased frequency of nonunion and numerous other complications.

The advocates of traction emphasize the better end results and fewer complications at the expense of the long period of hospitalization.

Special emphasis on any one of the factors, i. e., expense, complications, ambulation, early mobility of joints, shortage of hospital beds, etc., increases the confusion, warps our surgical judgment, and clouds the issue.

Another factor which has added confusion to the treatment of femoral shaft fractures has been, strangely enough, x-rays. A perfect economic and functional result need not necessarily (though of course it helps) be a perfect x-ray result. Our desire to obtain an x-ray demonstrating a perfect reduction, the occasional dread of adverse professional criticism of an incomplete reduction, and the constant pressure of uncomprehending patients, relatives, and friends frequently results in a "hibernation" of good judgment and the adoption of an unwise method of treatment.

Another source of confusion is a lack of the knowledge of the complications of the various methods of treatment of these serious fractures, particularly when the complications are not mentioned or they are minimized by the silver-tongued detail man who has a sales talk describing the wonders of an apparatus based on mechanics rather than physiology.

It is felt that a short analysis of the various treatments of femoral shaft fractures might erase some of the confusion as to the proper method to employ. It is not the purpose of this analysis to be critical of the various procedures in the hands of their originators or those who are unusually skilled in their applications but to demonstrate their haz-

ards for the average group of surgeons. Also, let it be understood that circumstances may alter cases and those which we may regard in this discussion as less preferred procedures may be the ones of choice in selected cases. Another factor to be considered is the availability of substitute procedures in the advent of failure of the one instituted primarily.

1. REDUCTION AND CAST is mentioned only to be immediately condemned except in the extraordinary situations. A "greenstick" fracture in a child or a transverse supracondylar fracture, which are rarely seen, are the only situations in which reduction and cast would be applicable and even then must be regarded skeptically. In transverse fractures of the shaft, even if a perfect reduction is obtained, angulation is almost certain to occur in the cast, as a result of absorption of hemorrhage, and muscle atrophy or opponent muscle pull. In oblique or comminuted fractures there is certain to be shortening to a disabling degree which even such ingenious though futile procedures as incorporated skin traction will not prevent. There is also the added complication of loss of knee motion with the long period of immobilization in the cast which is required for healing, particularly when the knee is so frequently maintained in hyperextension.

2. SKIN TRACTION simply applied with a direct pull either in or out of a splint is so infrequently successful it should not be selected as a treatment of choice. Mechanically such traction functions at a tremendous disadvantage, having as its area of purchase only the skin which is a flexible, tractible base which is unassociated with the femur whose position and length it is supposed to control. Infrequently can sufficient weight be applied to obtain a reduction and less frequently can the skin tolerate sufficient traction to maintain a reduction, if obtained, over a long enough period of time to result in healing.

3. RUSSELL TRACTION—a form of skin traction—is a successful means of treatment, providing the operator has a perfect understanding of the mechanical principles involved, has ample time to enforce those principles and personnel trained to maintain the apparatus and to properly nurse the patient. Of all the methods employed it requires the most meticulous, constant, and intelligent supervision. Because of these requirements it is a method chosen by only a few surgeons. For the average surgeon treating one or two fractured femoral shafts a year the method requires so many refinements and niceties of adjustment and care as to make it inadvisable.

4. EXTERNAL SKELETAL REDUCTIONS AND FIXATION such as the Stader splint and the variations such as the Roger-Anderson appliance, etc., or incorporation of transfixing pins in plaster after reduction, represent a system of treatment of femoral shaft fractures too dangerous to be employed by the average surgeon. The complications are numerous such as loss of position due to a broken pin or one pulling loose, ring sequestra at the site of the pins, infections, nonunion due to overpull of the fracture fragments and, quite contrary to the advertisements but according to unbiased reports, long periods of bed rest, longer periods of total protection, and greater loss of knee motion than in treatment by other methods. Apparently only in the hands of the inventor or the unusually well and specifically trained surgeon is this type of treatment applicable for fractured femoral shafts.

5. OPEN REDUCTION with the application of plates, bands, etc., for internal fixation results usually in the best x-ray results immediately postoperatively but about the worst end results when measured by x-ray and by function. In the hands of the masters such as Clay Murray, who died recently, the results were good, but in the hands of the average orthopedist or surgeon the details of the technique create obstacles which prevent good end results. Such technical details as the length of the plate, the strength of the plate, the length and the seating of the screws, the type of metal used, the avoidance of distraction of the fragments, the disposition of loose fragments, the surgical approach, the avoidance of infection, and the postoperative fixation are only a part of the details involved in the procedure. A good end result is frequently further complicated by fracture of the plate, loss of position by angulation at the fracture site through a bending plate, by the almost universal major loss of knee flexion, and the frequency of delayed and nonunion. Delayed union and nonunion have been, in fact, so frequently a complication in open reduction of fractures that now when we are forced to do an open reduction we routinely graft ilium into the fracture site at the time of operation. This grafting procedure has definitely improved our results but should not be necessary in a competent method of treatment. Our experience in our own practice and our conclusions from observation of many referral cases leads us to the conclusion that open reduction of fractured femora is one of the least advisable methods of treatment.

6. INTRAMEDULLARY FIXATION of fractured femoral shafts, spectacularly highlighted during the war by the Kunchner nail, has had such variable success and has been attended by such dramatic complications that its use at present is inadvisable. Intramedullary nailing may, however,

eventually come as near solving the treatment of fractures of the femoral shafts as has nailing solved the treatment of fractures of the femoral neck. The procedure of reducing the fracture and inserting the nail is more formidable and complicated than plating the fracture, and the possibilities of a nonunion after the procedure are as great as in plating procedures unless every detail is meticulously observed. In the advent the nail angulates the problem of its removal is monumental. A Chicago orthopedist—a friend of ours whose veracity we accept—spent almost four hours sawing in two a Kunchner nail to correct a deformity in a nailed fracture resulting from a fall. A carefully controlled study and procedure of intramedullary nailing is being conducted but is not yet sufficiently advanced to be accepted.

The issue for us is to select the method of treatment of fractured femoral shafts which will result in the fewest deformities and the least residual loss of function. This is an economic approach which will produce for the patient the best possible machine with which he may eventually recoup his immediate economic losses. Any method aiming primarily to reduce the immediate economic pressure at the expense of eventual earning capacity is unsound. In other words we physicians—self admittedly poor economists—may be "penny wise and pound foolish" in attempting to save the patient pennies of hospital bills to obtain a result which will cost the patient pounds of earning capacity.

We believe that the method of choice in the treatment of fractured femoral shafts is by Kirschner wire skeletal traction in a balanced Thomas splint with a Pierson attachment. This conclusion is based on our own experience as well as many reports based on series of cases treated by numbers of surgeons by the various methods. The factors considered in these reports which lead to this conclusion are: comparison of duration of absolute recumbency, length of periods of protection after recumbency, duration of time necessary for x-ray evidence of union, amount of residual knee motion, frequency and nature of the complications, etc. Only in two of all these factors does skeletal traction fail to excel; one is the long period of hospitalization required and the other is the occasional shortening of the femur which is rarely consequential. The better results in alignment and knee function, the shorter period of work incapacity, and the fewer complications greatly outweigh the two disadvantages.

Occasionally, open reduction and internal fixation may be required if the interposition of muscle prevents near apposition or if there persists an unacceptable angulation or shortening. In our experience this has been rarely necessary and the interposition of muscle is more frequently used as an excuse than as a reason for open reduction. For a considerable period of years, but not recently, open reduction of fractured femoral shafts was our treatment of choice and we had occasion to operate a goodly number, and in those cases operated only two had interposed muscle which might have prevented reduction by traction. Because so few cases actually have been found at operation with muscle interposition we believe that almost invariably failure of reduction by skeletal traction is a failure of the operator's mechanical sense and of his understanding of muscle actions rather than a pathological interposition of muscle tissue. Open reduction also may be required, if the fracture has been seen too late to achieve by traction, a correction of alignment and length. If the fracture is 10 days or two weeks old and adequate reduction has not been achieved, shortening may certainly be anticipated and angulation as well if treated by traction. In these intermediate cases open reduction may be the method of choice.

We reserve open reduction and plating for those cases in which if after adequate traction there is:

A. Irreducible angulation
   1. Greater than 20° in varus.
   2. Greater than 20° anteriorly.
   3. Greater than 10° in valgus.
   4. Greater than 10° posteriorly.

B. Shortening
   1. Of more than one inch if the patient is older than 13 years.
   2. Of more than 1½ inches if the patient is younger than 13 years.

The criteria of an adequate reduction by any method of treatment are:

1. Less than ½ inch shortening.
2. Apposition of ⅓ of shaft.
3. Alignment.
   A. Rotation—none internal, less than 15° external.
   B. Angulation
      None valgus or posterior.
      Less than 10° anterior or varus.

If these criteria are satisfied, regardless of the appearance of the x-ray of the fracture site, we are confident that an adequate result will be obtained. It is seldom that these criteria cannot be achieved by skeletal traction in a balanced frame, thus eliminating the numerous and frequently devastating complications of open reduction or external skeletal fixation.

Now after having built up a case for skeletal traction for fractured femoral shafts, I wish to retract from its application a limited group of cases.

This group is children under six years of age. This group of cases constitutes a problem of its own which must be treated by a much simpler traction method. Adhesive skin traction is applied from the ankle to the proximal end of the femur and the child is suspended by weights and pulleys. The primary overhead pulley is directly over the pelvis and weights are sufficient to suspend the buttock of the fractured side free of the bed. Immediate correction of alignment is obtained and usually correction of shortening except in transverse fractures where a half inch shortening may persist. It is unnecessary but may be advisable to correct this shortening by manipulation under fluoroscopic control with anesthesia, while the leg remains in traction in the apparatus. The shortening usually can be corrected by angulating the fragments in the same direction as the angle of the pre-traction films to obtain end to end contact, then correcting the angulation or allowing the traction to do so.

During the period of suspension no effort is made to prevent the patient's activity, allowing him to roll about in bed as he desires on his back, face, or side, so long as the traction apparatus through its pulleys is free to maintain constant tension on the leg sufficient to elevate the buttock from the bed. By four weeks x-rays usually demonstrate sufficient callus to allow the application of a cast which immobilizes the femur for an additional six weeks.

This cast is applied while the patient remains in traction in bed by means of elevating the shoulders on an overturned basin and supporting the good leg. This procedure completely frees the pelvis of bed contact by several inches and while in this position the rope is tied to prevent the added cast weight dragging the torso to the bed. The plaster is then applied over the adhesive, incorporating the foot, pelvis, and torso but not necessarily the good leg. The femur is, of course, flexed at 90° at the hip which allows the child to sit with his cast, at the same time affording ample comfort for recumbency and assuring no possibility of unauthorized weight bearing.

After removal of the cast, after x-ray evidence of solidification of the fracture site, function is allowed which is the only post-immobilization treatment necessary to achieve a normal leg. In over 20 years of orthopedic practice we have yet to see a poor result of a freshly fractured femoral shaft in a child under six treated by this procedure, and we believe an open reduction is never warranted. It is granted, however, that a great deal of persuasion is often necessary to convince doubting parents and undoctrinated fellow practitioners of the wisdom of allowing a femur to heal in a six-year-old with shortening and little or no apposition. Complete confidence of the surgeon in the procedure must precede any effort to convince an over-anxious parent. Your confidence may be based upon these proven factors in children's fractured femora:

1. Union is more rapid than in adults.
2. Delayed union is rare.
3. Nonunion in nonpathological fractures is unknown.
4. Loss of knee motion is transient.
5. An overgrowth in the fractured femur of at least one cm. may be anticipated.
6. Epiphyseal growth tends to eliminate or does eliminate angulation.

It is recommended that the treatment of fractured femoral shafts in the remaining age group be by Kirschner wire skeletal traction in a suspended balanced Thomas splint with a Pierson attachment. This procedure involves two separate factors—first, the balanced splint whose function is to support the leg and to prevent posterior angulation and varus, and second, the skeletal traction to correct the shortening and to achieve alignment. In the treatment of these fractures by this method the distinct functions of each of these two factors must be constantly kept in mind both in the original application of the method and in the after care. Confusion in the function of either of the factors may result in failure.

The Thomas splint must have a Pierson attachment with the hinge at the knee level to allow a slight degree of stationary flexion of the knee joint. The Pierson attachment is necessary as it allows the knee to flex sufficiently to prevent rotation of the distal fragment and the slightly flexed position relieves tension on the posterior capsule of the knee which increases the patient's comfort during treatment and decreases the residual stiffness of the joint. The Thomas splint is suspended by a rope extending from the thigh band to the base, this suspension rope runs over a series of pulleys in an overhead frame with a weight slightly greater than the splint hanging between two pulleys to allow a rocking motion of the splint for nursing care and necessary position change. Both the thigh and the leg portions of the splint are covered with individual strips of muslin, six inches wide, pinned at each side over the side bars to allow free adjustment of their tension. A foot piece is provided either stationary or individually balanced to prevent toe drop. This completes the splint factor in the treatment.

The skeletal traction is provided by a Kirschner wire and traction bow. A Kirschner wire is much to be preferred over a Steinman pin or tongs because the use of the wire results in decidedly fewer complications and also in decreased bone trauma.

After all of the apparatus is assembled in the patient's room he is given an anesthetic; sodium pentothal is preferred in our service though occasionally instead of a general anesthetic heavy narcosis is utilized. The area about the knee where the Kirschner wire is to be introduced is carefully surgically prepared by scrubbing, application of skin antiseptic, and carefully draped. Certainly it should not be necessary to point out the absolute necessity of perfect asepsis in the introduction of the wire. This procedure requires as careful skin preparation and the instruments as thoroughly sterilized as for any surgical procedure. The application of the wire necessitates, of course, a special drill to maintain its rigidity during the introduction. The skin must be pulled proximally on both sides of the leg during the introduction of the wire to prevent painful tension on it when traction is applied. The preferable point to apply the wire is just proximal to the condyles of the femur through the hard cortical bone of the shaft. The second choice is through the tibial tubercle. In selecting the site for the wire several general factors must be kept in mind:

1. Avoid the hematoma.
2. Avoid the joint capsule.
3. Avoid in children and adolescents the epiphyseal lines.

In selecting the site for the wire several specific factors must be also considered:

1. If the fracture is very near the condyles, the tibial tubercle should be used.

2. If the displacement of the distal fragment is posterior, the wire should be placed in the anterior portion of the shaft.

3. If the displacement of the distal fragment is anterior, the wire should be placed in the posterior portion.

After the wire has been introduced and the puncture wounds about the protruding ends have been sealed with collodion the leg is placed in the Thomas splint with the knee flexed at 20° and the traction bow applied to the wire. Tentative weights are then attached to the splint and bow, and procedure of reduction is begun.

Immediate reduction meeting the previously established criteria of length, alignment, and apposition should be obtained within minutes or hours, not days of time. The portable x-ray machine should take up residence beside the patient's bed and recheck x-rays made after each alteration until the criteria are satisfactorily met or despaired of. The alterations of weights and the adjustments of the splint should be a constant function until reduction is achieved—not a piecemeal process with intervening days of lapses of attention. If skeletal traction will reduce the fracture the result can be achieved much more easily in the first hour or two than in any number of subsequent days.

An initial application of 30 to 40 pounds of weight is often required to obtain length and alignment. If the wire has been placed in the femur, the traction should be in the direct line of the femur. If the wire has been placed in the tibial tubercle, the traction should be somewhat above the line of the femur. Abduction or adduction of the splint is frequently necessary to alter varus or valgus angulation. Changing the tautness of the bandage strips in the Thomas splint is often required to alter posterior or anterior angulation. Occasionally posterior angulation may be altered in distal third fractures by moving the Pierson attachment proximally to the fracture site which, if well padded, may act as a fulcrum to alter the deformity.

Great ingenuity and care must be exercised to achieve the best possible position. Every change must be inspected by antero-posterior and lateral x-ray views. This entire procedure should require minutes or hours—not days or weeks of time. Any period of distraction of the fragments even for a few hours will predispose that fracture to delayed or nonunion, and therefore after the criteria of reduction have been achieved the heavy traction of 30 to 40 pounds should be reduced to 15 or 20 or to whatever amount allows not the slightest distraction of the fragments but still maintains alignment. As the case progresses over the next few days and the muscles lose their tone, probably less and less weight will be necessary to prevent distraction. Distraction of the fracture fragments is by far the most frequent cause of delayed union and nonunion and must be prevented at almost any cost. A good procedural slogan is to require quarter hourly x-rays until reduction has been achieved and weekly x-rays after reduction. If in spite of the precaution of pulling the skin proximally in the application of the Kirschner wire, there is painful traction on the skin, the taut skin should be incised under local anesthetic and resutured to relieve the traction pain.

The traction and splint must be maintained until x-rays demonstrate adequate healing of the fracture. The x-ray interpretation must be supplemented by cautious lateral medial and antero-posterior manipulation to determine the presence of any "give" or instability through the fracture site. The x-rays are misleading often enough that they must be checked by objective findings. With the beginning of the appearance of callus the Pierson attachment may be liberated and the patient allowed to guardedly actively and passively exercise his knee.

The usual period of recumbency and traction is three months, depending on age, reduction, etc.,

and largely on some unknown and unpredictable factor of healing of fractures. After adequate callus has been achieved the apparatus is removed and active and passive physiotherapy begun. After a week in bed unsupported the patient is allowed to walk with crutches with or without an additional brace support to his thigh depending on the confidence of the surgeon in the union of the fracture. The period of protection following the removal of the traction is usually about three or four months.

In evaluating his end results the surgeon may well utilize a formula long in use. The factors of this formula are:

Appearance
- Visual
- X-ray

Function
- Range of motion in knee
- Shortening
- Angulation
- Subjective complaints

Economic
- Percentage of economic loss

In conclusion may we emphasize again that in our hands and as well in those of the average surgeon, skeletal traction is at present the method of choice in the treatment of fractures of the shaft of the femur.

Kansas Medical Society Annual Meetings

1951
May 14-17
TOPEKA, KANSAS

1952
May 5-8
KANSAS CITY, KANSAS

A Case of Muscular Dystrophy of the Facio-Scapulo-Humeral Type (Landouzy-Dejerine Syndrome) Associated With Hyperostosis Frontalis Interna With Accompanying Metabolic Disturbances*

Phyllis J. Burdon, M.D., and Perry D. Petterson, M.D.**

Topeka, Kansas

The case herein described is reported because of the unusual coincidence of hyperostosis frontalis interna associated with multiple endocrinopathies in a patient with the Landouzy-Dejerine type of muscular dystrophy who came to autopsy. The syndrome of hyperostosis frontalis interna associated with headache, obesity, neuropsychiatric disorders and metabolic disturbances (Stewart-Morel-Morgagni Syndrome) has been described by many authors.[1-9] No definite relationship between these various entities has been proven and the association may be coincidental.[9]

Case Report

A 57-year-old white, married, rural mail carrier entered this hospital March 22, 1948, and remained hospitalized, except for short intervals, until his death October 22, 1948. His chief complaints on admission were recurrent attacks of nervousness, weakness, particularly of the legs, headaches, and occasional nausea and vomiting, of approximately 20 years' duration. The most recent attack had lasted one month and caused him to enter the hospital. It had been immediately preceded by a short bout of "flu" in which diarrhea and backache were the outstanding symptoms. Additional complaints were mild exertional dyspnea of 12 years' duration, nocturia and urinary frequency of five years' duration, aching of the knees, constipation, occasional vertigo on arising in the morning, failing vision and loss of libido and potentia in recent years. The system review was otherwise negative.

He was admittedly uncertain of dates in his medical history. His past history revealed that at the age of three he had had an undiagnosed febrile illness which was followed by a transient blindness and deafness for several weeks. (He believed his bilateral ptosis dated from this illness.) In 1915, at the age of 24, he had had mumps with bilateral orchitis followed by bilateral testicular atrophy. In 1932 he was in an automobile accident and was unconscious for approximately one-half hour. Several years after the onset of his present illness he sought medical attention elsewhere and was placed on thyroid medication daily. In December 1940, he visited the Mayo Clinic where a clinical diagnosis of myotonic dystrophy was made. Skull x-rays there revealed frontal hyperostosis interna with slight calcification of the falx. The urinalysis at that time revealed glycosuria, but the patient left before further studies could be completed. BMR there was reported as —19 per cent. In 1943 he was examined at the Hertzler Clinic in Kansas, where diabetes mellitus was first diagnosed. For the three years prior to admission to this hospital he had been taking dessicated thyroid grains v and protamine zinc insulin 25 units daily. Repeated attempts at weight reduction had been unsuccessful. No other

Figure 1a. Bilateral ptosis (more marked on the left), myopathic facies and atrophy of pectoral muscles.

*Sponsored by the VA and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

**From the Department of Internal Medicine, Winter Veterans Administration Hospital, Topeka, Kansas.

cases of muscular dystrophy were found in the family history.

Physical examination revealed an obese, lethargic, white male appearing older than his stated age. The facial expression was fixed because of bilateral paresis of the facial and trigeminal muscles (Figure 1). There was a pronounced bilateral ptosis, more marked on the left (Figure 1a). The voice was low, weak, and monotonous. The sensorium was clear and the patient was well oriented. Recent memory was moderately impaired; remote memory was preserved but inaccurate. He was mildly depressed. The obesity was limited to the abdomen where the panniculus hung in large folds while the extremities, in comparison, were slender. The skin was fine in texture but sallow, with a progeric change about the ears (Figure 1b). The blood pressure was 140 mm. Hg. systolic and 85 mm. Hg. diastolic. The pupils were irregular, but reacted normally to light, and in accommodation. There was an early cataract in the left lens. Opthalmoscopic examination revealed no evidence of retinitis; the relationship of the vessels was 4/3 with A/V compression and tortuosity of the veins. Examination of the thorax, heart, abdomen, back and extremities was negative. There was marked bilateral testicular atrophy. There was bilateral paresis of the vocal cord, uvula, tongue, sternocleidomastoid muscles and the flexors and extensors of the cervical spine. There was wasting and weakness of the pectoral muscles (Figure 1). The entire musculature was flabby and hypotonic, and a faint myotonic reaction was elicited in the muscles of the thenar region. The abdominal skin reflexes were absent and the ankle jerks were variable. Otherwise, the reflexes were slightly hyperactive. A marked swaying to the left was found on the Romberg test and the gait was on a broad base. No sensory changes were found.

Figure 1b. The progeric change about the ear is evident as are the myopathic facies and the pectoral muscle atrophy.

Laboratory data revealed a hemoglobin of 14.8 grams (Haden-Hauser method); r.b.c. 4.99 million cells per cu. mm., leucocytes 8,200 cells per cu. mm. with a differential count which was within normal limits. The sedimentation rate was 24 mm. per hour (Wintrobe Method). The serology was negative. Urinalyses revealed varying amount of glycosuria varying from 12.6 to 38.2 grams per 24-hour period. The initial blood chemistry revealed a fasting glucose level of 137 mgm. per cent; serum cholesterol 200 mgm. per cent; chlorides (as sodium chloride) 465 mgm. per cent; non-protein nitrogen 35 mgm. per cent and CO_2 combining power of 70 volumes per cent. A number of subsequent determinations revealed the following minimum to maximum readings: glucose 89-299 mgm. per cent and cholesterol 200-285 mgm. per cent. Serum calcium, phosphorus and alkaline phosphatase determinations on the same date were 12.1 mgm. per cent, 4 mgm. per cent and 6.8 Bodansky units respectively. A second serum calcium was 12.5 mgm. per cent. The whole blood creatinine varied from 1.8 mgm. per cent to 2.8 mgm. per cent.

Liver function studies, including the bromsulfalein retention, cephalin flocculation, thymol turbidity and a bilirubin partition, were within normal limits. The basal metabolic rate varied from -12 to -17 per cent, these being taken while the patient continued to receive thyroid medication. The urinary excretion of 17 kerosteroids was 8.0 mgm. per 24 hours. A creatinine tolerance test revealed the average excretion of 1.5 grams per 24 hours of creatinine and 0.67 grams of creatine before ingestion of 1.0 gram of creatine, and 1.0 gram and 0.88 grams respectively afterwards. The cerebrospinal fluid was clear and colorless, devoid of cells, had a negative globulin complement fixation and gold curve and contained 22 mgm. per cent of protein.

A modified Kepler-Power water test was suggestive of adrenal insufficiency in that it showed delayed diuresis after water ingestion. Roentgenographic examination of the chest was negative. Stereoscopic roentgen films of the skull revealed marked thickening of the frontal bones, and considerable calcification of the falx with projections into the right hemisphere; the sella was small (Fig-

ure 2). Normal diaphragmatic movements were observed on fluoroscopic examination. The original electrocardiogram revealed a first degree heart block with a P-R interval of 0.3 seconds and a normal QRS duration. A second electrocardiogram,

Figure 2a. Frontal hyperostosis interna.

two months later, revealed additionally a prolongation of the intraventricular conduction time to 0.12 seconds. The electroencephalogram was normal.

During his clinical course the patient gradually became worse, requiring increasing amounts of insulin, adrenal cortical extract, and testosterone. Thyroid dosage was greatest at time of admission and was lessened in later months with the hope of diminishing the increasing insulin requirement.

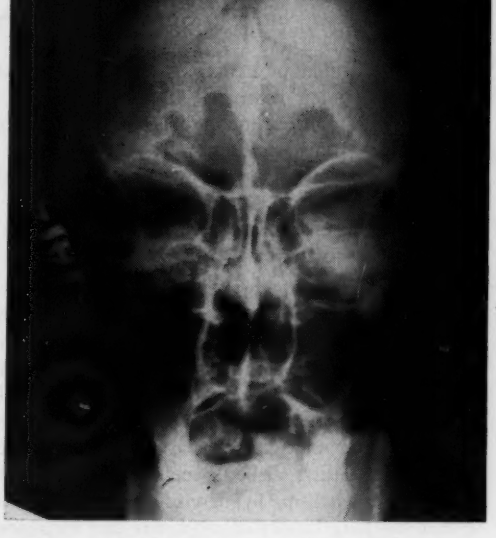


Figure 2b. Calcification of the falx with protrusion into the right hemisphere.

The patient's wife described an attack which occurred in May, 1948, as follows: The patient had a frontal headache of three to four days' duration; then sudden excruciating pain in the left knee and calf, pain in the lower posterior thoracic region, and oppressive pain in the chest all of one afternoon. Pronounced weakness, rectal incontinence and confusion occurred during the latter period. The final hospital admission (October 10, 1948) was precipitated by marked fatigue and headache. The mental depression which had been noted on previous admissions appeared to be accentuated. On October 22, 1948, at 2:00 A.M. he suddenly experienced a "pressure or bloating" type of discomfort in the right inframammary area, associated with aching pain in the left shoulder.

An emergency electrocardiogram revealed the following pertinent changes: QRS complexes: Lead 2, vibratory, Lead 3, AVF showed slight R, and deep S waves. T waves: $T_{1,AVL}$ are deeply inverted, $T_{3,AVF}$ are high and upright. S-T segments: S-$T_{1,AVL}$ are deeply depressed, S-$T_{2,3,AVF}$ are elevated. Precordial leads: ST_{V1-V6} are depressed with ST_{V5-V6} showing downward bowing. T_{V1} is larger, T_{V2-4V} are smaller and T_{V5-6} are inverted. Emergency blood sugar, chloride and carbon-dioxide volume per cent were within normal limits. A portable emergency chest x-ray was negative. At 10:20 A.M. he expired suddenly with clonic convulsions of both upper extremities.

Autopsy: Gross examination was performed by Dr. L. Berlin within eight hours of death. Pertinent findings included a moderate amount of fatty infiltration in the myocardium. There was a pale area of softening over the apex involving the anterior border of the left ventricle. Over the same area and within the anterior wall of the left ventricle there was an area 2 x 0.5 cm in diameter which was softened and showed pale fibrotic thickening. All the coronary vessels showed marked thickening and calcification. The liver was of a deep purplish color. The surface showed increased lobular markings but no retraction. Cut surfaces revealed the same lobular markings. The adrenal showed considerable post mortem change. The left kidney showed an accessory vessel entering the lower pole. Both testes were atrophic and together weighed 20 grams; each measured 2.0 x 1.5 x 1.0 cm. The bones of the calvarium were thickened, especially the frontal bones whose anterior portions measured up to 1.7 cm. in thickness. The parietal bones measured up to 1.0 cm. in thickness, and the occipital 0.7 cm. Protruding into the intracranial cavity were

two prominent bulging bony masses with verrucous protrusions extending from the inner tables of both frontal bones. Within the falx there were several large bony masses extending both antero-posteriorly and somewhat laterally into the right cerebral hemisphere. One of these bony masses measured 5.7 x 1.7 x 2.5 cm. (Figure 3). In the region of the left tegmen tympani there was a prominent bony

Figure 3. Thickening of the frontal bone with verrucous protrusions into cranial cavity. Separate specimen is from calcified falx.

protrusion measuring 2.5 cm. in diameter and resembling the bony protrusions of the frontal bones (indicated by arrow in Figure 4). There was a mild degree of sclerosis of the basilar blood vessels and

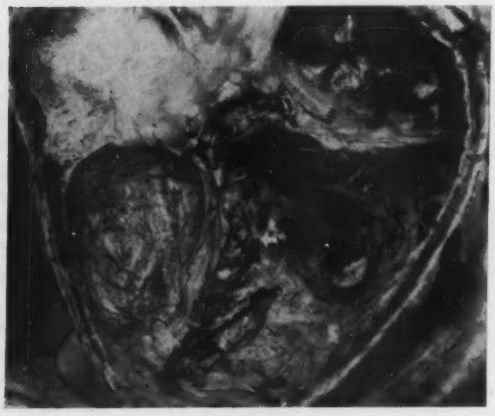


Figure 4. Verrucous exostosis of the left tegmen tympani.

considerable injection of the small vessels at the base of the pons. The pituitary gland appeared unaltered in situ and upon gross section.

Microscopic examination was performed by Dr. A. Plaut and Dr. L. Berlin. Sections of heart, lung, spleen, kidney, liver, pancreas, prostate, and bone marrow were within normal limits. The myocardium of the left ventricle contained diffuse small scars. Much fat tissue was found between the muscle bundles of the outer layers of the right heart.

The testes showed severe atrophy and fibrosis. After long search early phases of spermatogenesis were found in a few tubules.

Many sections of the suprarenal glands failed to show definite pathological changes. The cortex was thin, the structure of the fasciculata indistinct. The lipoids were distributed irregularly.

In the thyroid about half of the follicles appeared normal with well-staining colloid. Most of the others were small and their contents stained only faintly with eosin. There was occasional slight scarring and there were some small and a few large accumulations of lymphoid cells.

The one parathyroid gland that was examined was normal.

The sections of striated muscle from different parts of the body did not show any conclusive changes.

There was severe stasis in the anterior lobe of the pituitary. The cellular pattern was normal. There was one chromophobe adenoma the size of a high power field. Epithelial invasion in the posterior lobe was slight, pigment in places was abundant. There were rather conspicuous rows of Erdheim cells under the capsule.

Sections of the brain revealed thickening of the anteriolar walls and in places a tendency toward hyalinization of the walls. In other areas there was perivascular rarefaction of tissue with proliferation of astrocytes.

Pathological diagnosis:

1. Arteriosclerosis, generalized
   - A. Coronary artery sclerosis with coronary insufficiency.
     - (1) Old infarction of apical portion of left ventricle.
     - (2) Diffuse myocardial scars. Obesity of myocardium.
2. Hyperostosis frontalis interna. Calcification of falx cerebri.
3. Small periarterial encephalomalacic foci.
4. Atrophy of testes.

Discussion

The protean nature of the symptomatology associated with hyperostosis frontalis interna makes interpretation of the significance of this entity most difficult. We consider that the presence of headache, mental depression and transient confusion, together with multiglandular disturbances characterized by obesity, diabetes mellitus, hypothyroidism, hypoadrenalism, hypogonadism and hypercalcemia, the long history of morbidity and vagueness of symptoms, plus the roentgenologic finding of

hyperostosis frontalis interna place this patient in the category of the so-called Stewart-Morel-Morgagni syndrome. Necropsy findings in this case neither verified nor disproved our clinical diagnoses; however, such histologic changes of more or less non-specific nature have been found repeatedly in the endocrine organs of patients with muscular dystrophies.[10, 11] Whether the muscular dystrophy of the Landouzy-Dejerine type in this case is related to the aforementioned syndrome remains undetermined. One might entertain the concept that altered creatine metabolism may relate the two conditions. Fagin[7] reported two cases of dystrophia myotonia, one of which was associated with hyperostosis frontalis interna. He suggested the possibility of a common underlying defect in dystrophia myotonia and hyperostosis frontalis interna.

Summary

A case, including the autopsy findings, of a 57-year-old white male with obesity, headache, neuropsychiatric disturbances, multiglandular disturbances, and hyperostosis frontalis interna associated with the Landouzy-Dejerine type of muscular dystrophy is presented.

Bibliography

1. Moore, S.: Hyperostosis frontalis interna. A preliminary study. Surg., Gynec., and Obst. 61: 345-362, 1935.
2. Morel, F.: L'hyperostose Frontale Interne. Syndrome de l'Hyperostose Frontale Interne avec Adipose et Troubles Cerebraux. Paris, 1930. Gaston Doin et Cie.
3. Moore, S.: Metabolic craniopathy. Am. J. Roentgenology, 35:30-39, 1936.
4. Stewart, R. M.: Localized cranial hyperostosis in the insane. J. Neurol. and Psychopath. 8:321-331, 1928.
5. Perkins, O. C., and Biglan, A. M.: Hyperostosis frontalis interna. Review of the literature. Psychiatric Quart. 12:341-350, 1938.
6. Knies, P. T., and LeFever, H. E.: Metabolic craniopathy. Hyperostosis frontalis interna. Ann. Int. Med. 14:1858-1892, 1941.
7. Fagin, I. D.: Dystrophia myotonica. Report of two cases with associated hyperostosis frontalis interna in one. J. Michigan M. Soc. 45:500-503, 1946.
8. Grollman, A., and Rousseau, J. P.: Metabolic craniopathy. A clinical and roentgenologic study of so-called hyperostosis frontalis interna. J.A.M.A. 126:213-217, 1944.
9. Harding, F. E.: Endocrinopathies associated with hyperostosis frontalis interna. Amer. J. Med. VI, 329-335, 1949.
10. Aring, C. D., and Cobb, S.: The muscular atrophies and allied disorders. Med. 14:77-118, 1935.
11. Wilson, S. A. K.: Neurology. Williams and Wilkins Co., Baltimore. Vol. II, pp. 975-991. Publ. 1940.

NEW A.M.A. DIRECTORY

A copy of the A.M.A. directory for 1950, the first published since 1942, has been received at the Executive Office. Information from the directory will be supplied upon request. Physicians interested in securing their own copies, at $25 each, may order them from

Mr. A. W. Stack
Fellowship, Membership and Subscription Department
American Medical Association
535 North Dearborn Street
Chicago 10, Illinois

Poisoning Following Magnesium Sulphate Enema

Leslie L. Saylor, M.D., and Richard Greer, M.D.

Topeka, Kansas

This is a case report of magnesium poisoning following an enema, containing a saturated solution of magnesium sulphate, which was given following surgery.

There have been 18 cases of magnesium poisoning reported in the literature, not due to industrial accidents. Most of these cases were due to the cumulative effect of multiple doses of epsom salts given by mouth. Fawcett and Gens (J.A.M.A. 123-16, 1028 December, 1943) reported two cases of magnesium poisoning following enemas which contained saturated solution of magnesium sulphate, also given postoperatively. One of their cases died, the other recovered following administration of calcium, the specific antidote.

The signs and symptoms of magnesium poisoning are so dramatic and so severe and the possibilities of death are so immediate that we believe a warning should be given again of the possible fatal effects of this apparently innocuous drug. The first symptom of poisoning is a feeling of internal heat beginning in the abdomen, gradually spreading upward to the chest, neck, and the face. This is invariably accompanied by extreme thirst, and a feeling of lassitude so profound as to render the patient unable to help himself to water or even to call for help. Then develops a paresis involving the legs, trunk and arms, followed later by depression of respiration. The muscles of the neck, the tongue, and eyelids are progressively involved as the coma becomes deeper.

The signs of poisoning are difficult to interpret. The first to develop is a flushing of the skin of the upper chest, neck, and face. The early drowsiness may escape notice until the patient is comatose or until the depression of respiration is very marked. The slowly developing flaccid paralysis may easily be overlooked. The pulse is not affected and the blood pressure does not drop to alarming levels. Complete unconsciousness may or may not occur. In our case the patient stated that she was quite aware of her surroundings.

Case Report

Mrs. F., a 47-year-old white female, was admitted to St. Francis Hospital on January 3, 1950, for pelvic complaints. She had complained of a bearing-down sensation in the pelvis of one year's duration, accompanied by leukorrhea and vague pains in the right lower quadrant. She was examined in October, 1949, at which time a lemon-sized mass was discernible in the right adnexal region. The uterus, cervix, and left adnexa were apparently normal. Surgery was advised which she chose to defer for three months.

Past History. This patient has been married for 25 years, there were no pregnancies and she had a natural menopause, beginning at the age of 43. She had the usual childhood diseases, she had an appendectomy at the age of 19, and developed symptoms of peptic ulcer in February, 1948; however, this was not confirmed by x-ray, and she responded satisfactorily to antispasmodic therapy.

Physical Examination. Essentially normal except for pelvic examination, which revealed a mass of approximately 8-10 cm. in diameter in the right adnexal region, which was freely movable. The preoperative diagnosis was chocolate cyst of the right ovary. R.B.C. 3,700,000 Hb 12 gms. U.A. normal.

Operation. The patient received intravenous sodium pentothal with d-tubo curare and oxygen inhalation. Pelvic exploration revealed a grapefruit sized chocolate cyst of the right ovary and a small egg-sized similar tumor of the left ovary. The fundus of the uterus contained numerous small intra-mural fibromata. The appendix was absent. The gall bladder, stomach, colon, and other viscera were normal to palpation. A pan-hysterosalpingo-oophorectomy was done. She received 500 cc. of whole blood during surgery. Her immediate postoperative condition was good.

Postoperative Course. The patient remained afebrile following surgery. The abdomen was flat, there was no nausea or vomiting. The urinary output approximated 1000 cc. daily. Early ambulation was allowed and the patient was out of bed on her second postoperative day. Because of some mild abdominal cramps, on the third day an enema was ordered, consisting of two ounces of magnesium sulphate, four ounces of glycerin and six ounces of water which was administered at 10:30 a.m. on January 6. Fair results were reported by the nurse, but the enema was followed by nausea and an emesis of a small amount of clear fluid.

At 11:00 a.m. the patient began to develop peculiar symptoms of weakness, extreme thirst and later described a sensation of heat beginning in the

abdomen and slowly rising to the chest, neck and head. She was soon unable to move her legs and arms and could turn her head only with great effort. Speech was difficult and so slurred as to make her unintelligible. Her tongue seemed thick and swollen. She had incontinence of urine and feces. She was seen by a nurse at this time who did not recognize anything unusual in the patient, assuming that she was somewhat exhausted by the enema.

She was seen by both of us at 2:00 p.m. She appeared to be in a coma, she responded to painful stimuli by mumbling, she could not move any part of her body except her tongue and that only slightly. Her face, neck, and upper chest were flushed. The pulse was 92, firm and regular. The blood pressure 100/70, heart sounds were normal, the lung fields were clear although respirations were slow, shallow and abdominal. The abdomen was not distended and the bowel sounds were normal. Her pupils were slightly dilated and reacted only very slightly to light. The corneal reflexes were absent, the eyelids remained in place when moved by the examiner's finger. The tendon reflexes were absent in all extremities and the abdominal reflexes were absent.

The patient was given the usual supportive treatments, oxygen, elevation of the foot of the bed and one unit of plasma followed by 1000 cc. of five per cent glucose. The differential diagnosis was considered at this time and hemorrhagic shock, cerebral thrombosis, pulmonary embolus, and Waterhouse-Friderichsen syndrome were all discussed. A blood count revealed 5,100,000 R.B.C. with 91 per cent Hb. Because of the possibility that this might be an adrenal failure, she was given two cc. of Lipocortex and five cc. of aqueous adreno-cortical extract.

Within an hour the patient was able to respond, the blood pressure had risen to 120/80 and motion was gradually returning to her respiratory muscles and extremities. She still complained of extreme thirst and a feeling of internal heat. When questioned as to what happened she stated that within a few minutes after her enema she became extremely thirsty and noticed the feeling of heat already described. She became progressively weaker, her tongue became thick and she lost all power to move her voluntary muscles. She had no pain and actually felt little discomfort except for the thirst and heat. She said that she was never completely unconscious, that she understood and recognized the doctors and nurses and was aware of what went on, although dimly at times.

By 7:00 p.m. the patient had recovered the use of all her muscles and was able to talk although with some slurring. The following morning she was entirely normal.

It was obvious that this syndrome was not the result of hemorrhage, embolus or adrenal failure. One of us (L.S.) thought of magnesium poisoning and the literature revealed the few reports quoted here. The symptom complexes were identical with the symptoms in this case.

A chemical analysis for magnesium on blood drawn during the episode revealed a serum magnesium level of 3.8 mg. per cent. This was not as high as those reported by Fawcett and Gens but represents a definite increase over normal. This blood sample was kept for several days before analysis was done.

Discussion

This case is reported because it represents the potentially dangerous effects of an apparently harmless drug. We are unable to say whether the toxic effect was due to an individual idiosyncracy or to an unusually rapid and complete absorption of the magnesium.

A specific antidote is readily available, though not used in this case. One gram of calcium gluconate is given intravenously every hour until the patient responds.

The symptom complex is so definite that the complaints of severe thirst and intense internal heat should be regarded as impending magnesium poisoning.

We recommend that magnesium sulphate not be used as enemas.

Bibliography

1. Fraser, Chas., Epsom Salts as a Poison, Lancet 1:1174, 1909.
2. Magnesium Poisoning, J.A.M.A., 55:2037, 1910.
3. Priestley, J. P., Toxic Effect of Magnesium Sulphate, N.Y. M.J., 96:665, 1912.
4. Fawcett, D. W., and Gens, J. P., J.A.M.A., 123-16, 1028, Dec. 1943.
5. Sollman, T., M.A.N.U.A.L. of Pharmacology and Its Applications to Therapeutics and Toxicology, 7th Edition. Systemic Actions of Magnesium, pp. 747, 1948.
6. Linton, Robt. R., N. E. Jour. Med., 242-8, Feb. 23, 1950, Case Records of the Massachusetts General Hosp., p. 297.

Rupture of Uterus—A Case Report

Cyril V. Black, M.D.
Pratt, Kansas

Mrs. E. B., age 22, was first seen in the ambulance outside the hospital. C. C. pain in lower abdomen, pregnancy eight months.

Past history showed the usual childhood diseases. One pregnancy two years previous to this one. After a trial labor, pregnancy was terminated by a classical Cesarean section. The convalescence was about as stormy as the labor, with chills and high fever.

P. I. Her present pregnancy had been uneventful until two days before admission when she lifted her older baby and had a sharp pain in her lower abdomen. This persisted for about an hour but gradually stopped. Again on the day of admission she lifted the older child and had a recurrence of the pain, but it was more severe this time. They called an ambulance and brought her 25 miles to the hospital.

P. E. On examination we saw a white girl about 22 years old, average size and about 130 pounds in weight. The uterus was enlarged to about the eighth month in size. Her pulse was 80 and her general physical condition was good. The baby's heart tones were normal and about 140 per minute. The abdomen was moderately tender, but not rigid. There was no point of maximum tenderness. The pain was not severe enough to require sedation. After 30 minutes the patient was checked again and her pulse remained 80, and the baby's rate was about 140, but the fetal heart sounds were less distinct. We elected to do a Cesarean section immediately and within 30 minutes had the abdomen open. There was an apron of black blood clot covering the entire uterus. It was about one-half inch thick and 14 inches by 16 inches across. There was a considerable amount of fresh blood and new blood clots under this. There was a tear in the old incision of uterus about 1½ inches long. With my finger I completely opened the old incision. The placenta was attached under this area and was splinting the old incision. The placenta was removed and the baby girl delivered. She began crying immediately. As there was considerable blood loss the uterus was not removed but closed and the tubes quickly ligated and cut. Time of operation was 22 minutes.

The patient was returned to her bed and plasma was administered. Following this she had one blood transfusion. Postoperatively her temperature went up to 102. She was started on penicillin, 40,000 units every four hours. From this stage on her recovery was uneventful and she was out of bed on the seventh day. The baby progressed normally and without any difficulty.

From this history I believe the uterus had started rupturing two days before the operation but had been splinted by the placenta to the extent that there was no massive hemorrhage at any one time.

A case of ruptured uterus with living mother and baby has been reported.

Cancer Supplement with This Issue

Readers of the Journal of the Kansas Medical Society are urged to read also the supplement mailed with this issue, containing papers presented at the Second Annual Mid-West Cancer Conference held at Wichita, Kansas, January 19, 20 and 21, 1950. The conference is a joint project of the Committee on Control of Cancer of the Kansas Medical Society and the Kansas Division of the American Cancer Society.

New Kansas Licenses Issued

One hundred twenty-seven physicians received licenses to practice in Kansas last month, according to an announcement made by Dr. O. W. Davidson, Kansas City, secretary of the Kansas State Board of Medical Registration and Examination. Eighty-eight were licensed as the result of having successfully completed examinations on June 7 and 8, and the remainder were licensed by reciprocity.

Among those licensed by examination are the following from Kansas City: Leonard Herman Akes, Harry Leroy Biggs, Martha Maxine Thornton Brillhart, Mack Albert Carter, Albert Franklin Crumley, Byron Taylor Eberle, Robert Charles Fairchild, William Bradley Gerlach, Waldo Sly Holt, Clifford Eugene Jones, Kenneth Lawrence Knuth, Milton Edward Lindlay, Edward Ernest Long, Victor George McDonald, Jr., Bartlett Wilhite Ramsey, Barbara Edmonds Russell, Niles Monroe Stout, Frederick Udell Timms, Charles Bertan Wheeler, Jr., and Katherine Alice Woods.

Kansans who passed the examination are: Theodore L. Batchelder, Garden City; Ward Eugene Benkelman, McDonald; Franklin Keith Bowser, Ashland; John Edward Buess, Pittsburg; Byron Hugh Buff, Topeka; Daniel Tedford Coats, Topeka; Frank Cvetkovich, Fredonia; Marion Lois Devault, Spring Hill; Richard Lee Dreher, Salina; Edward Joseph Fitzgerald, Liberal; Merle Everett Foland, Almena; Jake Friesen, Hillsboro; Deryl Donavan Fuller, Arlington; Tex Elholm Fury, Salina; John Wheeler Griffin, Jr., Topeka; John Kerfort Griffith, Hiawatha; Wayne Epley Hird, Lawrence; Willard J. Howland, Jr., Lawrence; Glen Curtis Hutchison, Wakeeney; Leda Grace Janke, Claflin; Frederick Otto Joerns, Overland Park.

J. D. Kabler, Wichita; Paul Andrew Kaelson, Jr., Wichita; Warren Lee Kump, Oberlin; Glen McCray, Neodesha; Stanley Rankin McEwen, Wichita; John Warren McKay, Wichita; Alexander Clark Mitchell, Lawrence; Dewey George Nemec, Agenda; George Elbert Omer, Jr., Wamego; Barbara Jane Owen, Lawrence; Larue Wilson Owen, Nashville; Yale Eugene Parkhurst, Winfield; Jack Tellin Peterson, Hutchinson; Harry Orville Phillips, Ottawa; Richard Louis Pokorny, LaCrosse; Charles Byrd Powell, Columbus; Robert Edgar Hollingsworth Puntenney, Newton; Alexander Roth, Wichita.

John Gordon Roth, Wichita; Robert Keith Russell, Olathe; Sherman Fred Saffier, Wichita; Eugene Edward Schwartz, Hoisington; Ross Douglas Skinner, Delphos; Dean Anno Smith, Selden; George Clement Steinberger, Independence; Grant Melvin Stevens, Hutchinson; Clair Leitnaker Tamblyn, Baldwin; Robert Anderson Tennant, Pittsburg; Daniel Max Thompson, Almena; Ernest Elwood Tippin, Jr., Wichita; Richard Neal Todd, El Dorado; Frederick Eugene Totten, Salina; Nathaniel Uhr, Topeka.

Those from outside Kansas and the Kansas City area who received licenses by examination are: Robert Harold Adams, Independence, Missouri; Lars Arden Almquist, Fairfield, Alabama; Paul B. Burger, St. Louis; Paul Russell Carpenter, Morris, Minnesota; Francis Alston Davis, Drumright, Oklahoma; Thomas Winston Hogan, Pleasantville, New Jersey; Wesley Arthur Innes, Raton, New Mexico; John Shaw Kirk, St. Joseph, Missouri; Ferald Dee Mauk, Los Angeles; Richard Ervin Munns, Hampton, Iowa; Roland Dale Ostlund, Seattle; Earl Redfield, Des Moines; Hubert Eugene Smith, Blue Springs, Missouri; Charles Marshall Wood, Oakland, California.

Those admitted to practice in Kansas by reciprocity are: Raymond G. Auvil, Loma Linda, California; John Craig Artman, Kearney, Nebraska; Isaac Murphy Berry, Wichita; Phyllis J. Burdon, Topeka; William Burton Cheeseman, Kansas City; Margaret L. Churchill, New Orleans; Joseph J. Cochrane, Jr., Kansas City; John M. Cook, Lorain, Ohio; Leslie S. Cornfield, Walsh, Colorado; Frank W. Countryman, Topeka; James McCorkle Davis, Winfield; William Joseph Dignam, Kansas City; Charles Joseph Dougherty, Newcastle, Delaware; Peter Fleming, Topeka; Lila J. Gairns, Topeka; Joseph Edward Gootee, Topeka.

Richard L. Hermes, Dallas; John Elbert Kooiker, Topeka; Charles H. McCroskey, Coronado, California; Herbert Charles Modlin, Topeka; Francis C. Newson, Topeka; Frank Boyd O'Connell, Lincoln, Nebraska; Richard John Ohman, Dodge City; Ellis Oster, Beulah, North Dakota; Gideon O'Neil Proud, Kansas City; Floyd Orval Ring, Topeka; William Rottersman, Topeka; Paul Trautman, Winfield; John Ivan Waller, Halstead; John Henry Williams, St. Louis; Robert P. Woods, Chicago; Robert L. Braunsdorf, Topeka; Grant E. Evans, Wichita; Paul Moreman Hulett, Anthony.

Gift to K.U. Medical Center

A gift of $75,000 to the University of Kansas School of Medicine for the construction of an auditorium for school affairs has been made by Mrs. J. R. Battenfeld, Kansas City. The auditorium will be known as the J. R. Battenfeld, Jr., auditorium in memory of her son, a flight surgeon who was killed in 1945 when his plane crashed into a mountain.

Dr. Franklin D. Murphy, dean of the school, said that plans are being made to build an auditorium large enough to seat the entire student body and faculty. It will be used for conventions, major public lectures, meetings of small national scientific societies, and recreation.

PRESIDENT'S PAGE

Dear Doctor:

THE MILITARY STATUS OF THE KANSAS DOCTOR

It is difficult to write about probabilities but that is the position we face at the present time. The military medicine situation is changing from day to day and we can only speculate as to the future. Complications must of necessity arise when the military contraction suddenly becomes a rapid expansion.

One thing is certain; the medical profession must supply doctors in the desired numbers to the military forces. This number is 3.6 for each thousand in training and double that number for combat troops. If one million men are called into the armed forces, it will necessitate the services of at least 3,600 doctors; and if they all become combat troops, this number must be doubled. Kansas has approximately one per cent of the doctors in the United States so it is easy to calculate our quota.

Former V-12 and ASTP men who served no time on active duty are being contemplated for service by all three branches of our armed forces, the Navy, Army, and Air Force. No doubt they will be urged to volunteer and considerable pressure may be brought to bear upon them to enlist. There are about 8,000 men in the United States in this group.

The second group which is receiving consideration are the men who enjoyed a part of their training at government expense and served only during peace time. This group probably will also be urged to volunteer. If enough volunteers are not forthcoming from these two groups and the reserves, then, no doubt, some method of compulsion will be formulated. This would come down through Selective Service and Procurement and Assignment. As far as we know, at this writing, no such method is contemplated.

You will readily appreciate from my remarks that probably NO ONE KNOWS. Certainly no one seems to have specific knowledge of the number of military doctors needed. Of two things we may be certain: first, men with the rank of captain and below are wanted; second, we must furnish them. We must also see that civilian demand is met, that a knowledge of rational treatment of radiation patients be disseminated among the profession, and at the same time we must strive to preserve at least a part of the accomplishments of the Kansas Plan.

A meeting of the Emergency Medical Committee is being called to study the military and the defense problems and we may reasonably expect a statement from them in the near future.

Sincerely,

F. R. Crosson M.D.

President.

EDITORIAL COMMENT

Graduate Education in Economics

You ask what the Kansas State Chamber of Commerce is doing, why the Kansas Medical Society supports its activities and urges the doctors of Kansas to join. The answer is a manifold story of an organization of business and professional men in all walks of life who hope, as you do, that free enterprise can be continued in our nation.

One project is offered to illustrate the seriousness with which this problem is studied and the practical, down-to-earth approach the Chamber has adopted in its solution. The story is impressive, one you will remember.

Begin this story with an average high school teacher. Let her come from the farm to college and return to a small community teaching economics and government. She will teach her pupils what she has learned and has learned whatever she may have read.

Take the problem of capital versus labor, and what will she know? More than one textbook advocates changes for American economy so that "millions of persons" may enjoy a larger share of the fruits of their labors. More than one newspaper gives something less than the whole story behind a strike.

Where can this average high school teacher learn about Kansas industry? What textbook presents a clear picture of the flow of raw materials through the factory to the consumer as articles of service? Of even greater importance is the human side of this story, the men who operate these plants, the men who make the goods, the men who sell and those that buy. Who are they, what do they think, how do they live?

It has been the exceptional person who has any first hand knowledge of these things. It has been a rare teacher who could instruct on these subjects from any source other than her academic training. Her experience, her knowledge, her outlook on these things are all it is possible for her to teach from and it follows without hope for change that the pupils will learn from her point of view.

Recognizing this, the state Chamber of Commerce organized a tour of Kansas for school teachers, a two weeks trip to the four corners of the state by bus to see agriculture, business and government in operation. Thirty-six teachers with an interest in their profession beyond anything the public has any reason to expect paid about $100 each for this 2,000-mile tour. They saw the farmer harvest his wheat and talked to him. They saw salt mines, meat packing plants and airplane companies at work. They visited the state house and county government.

They learned Kansas industry, its physical operation and its purpose. They learned about labor, its problems and achievements. They witnessed the means by which these goods were distributed to the consumer and they talked to the people who accomplished these things.

These 36 teachers who invested their own money in obtaining this first hand knowledge will bring to their students a more accurate story next year and a more interesting story. And it was your Kansas State Chamber of Commerce that made this possible. The purpose behind the plan is of course obvious. Its continuation should certainly be assured.

You ask what the Chamber of Commerce is doing and why the doctors of Kansas are urged to support its activities. Out of a sea of projects, this illustration represents one cupful that has now been completed. But its effects will go on to span the gap between two generations.

ACTH

The partial synthesis and increased production of ACTH will shortly, after 12 years of research, place this product on the market for general use. Rumor has it that ACTH will be available for general hospital use as of about November 1, 1950. Exaggerated and unfounded publicity in popular literature and the presence of an unknown multitude of arthritics will immediately create a hysterical demand upon every physician in Kansas for the use of ACTH. It appears that the time for presenting a warning against the improper and indiscriminate use of this new substance is now, before it becomes available.

In the limited and meager clinical trials of this drug there have been dramatic remissions of symptoms. There have also been created in some of these patients undesirable side effects. Caution therefore is not directed primarily toward conserving this product but rather toward the protection of the patient.

Rheumatoid arthritis has been treated with striking results with the previously bed-ridden patient virtually symptom free after 24 hours. Promise is held for the rapid recovery of patients with acute rheumatic fever and reducing the incidence of heart damage. Numerous authors have reported temporary or prolonged remission of symptoms resulting from a wide variety of conditions, including dermatomyositis, scleroderma, periarteritis nodosum, nephrosis, hypoglycemia, ulcerative colitis, asthma, and a long list of infectious diseases. Among the last

named group are presented cases of pneumonia in which the patient is dismissed as clinically recovered after 24 to 36 hours.

It is known that the introduction of ACTH stimulates the adrenal glands, but the effect of this drug within the body is still undetermined. It is known that ACTH is secreted rapidly, but how it becomes effective in the treatment of a wide variety of conditions is still unsolved. Already determined, however, are the following changes. Adrenal cortical stimulation has a marked effect on the entire blood building system. The eosinophil count decreases rapidly. The lymphocyte count, although a less sensitive indicator, will also drop. The polymorphonuclear cell count rises 50 to 100 per cent above the base line level. The platelet count is apt to rise but the red blood count will probably remain stationary. Other blood changes are also recorded, but these are generally abnormal conditions which tend to become normal as the disease subsides.

The renal threshold is decreased when the adrenal gland is stimulated by ACTH. It has also been suggested that the enzyme system may be altered. A patient may have pneumonia without fever and without clinical evidence of such an infection. There are recorded examples of persons who are sensitive to specific antigens or drugs who may take these without harmful effect if accompanied with ACTH. This applies also to the use of chemicals such as iodine, etc. The administration of ACTH inhibits acute inflammatory reactions from almost any cause. It inhibits fever and pain and is generally supposed to perform other equally sensational services.

On the other side of the picture, and much less publicized, is the fact that many conditions recur to their previous severity immediately upon the cessation of the drug. ACTH is contraindicated in the presence of hypertension. It has a profound effect upon carbohydrate metabolism and should be used with great care, if at all, in patients who have diabetes. Patients with chronic nephritis should not be given ACTH because of the fluid retention that may occur, and for the same reason it is contraindicated in cases of congestive heart failure. Authors have reported alteration of cerebral function in patients receiving ACTH and suggest it should not be used for patients with psychoses. Those, to mention only a few of the many conditions in which the use of the drug is hazardous, should be sufficient to indicate caution in the introduction of ACTH for general use.

Since ACTH, for the present at least, would be limited in its use to hospitalized patients, it would seem wise that hospital staffs begin now to consider this problem and to prepare for their respective hospitals a sound policy regarding the administration of the drug. Ample provision should be available for laboratory analysis of the patient throughout the course of treatment and proper control measures employed. It might be recommended that hospital staffs and county medical societies present scientific papers on this subject to give each physician a thorough understanding of its uses and dangers. Bibliographies are rapidly being enlarged to where considerable material is already available for anyone who wishes to prepare a paper on this subject.

The Fight Against Political Medicine

Although physicians are rightfully jubilant over the defeat of the President's Reorganization Plan No. 27 by a wide margin, the fact that the proposal came up for decision again this year indicates that he, and many others in Washington, intend to keep battering at both the back and front doors of the medical profession until they gain entrance.

The front door approach would be through the enactment of National Health Insurance, which so far has been more a possibility than a probability. So, feeling that the back door might not be so closely guarded, the President, a year ago, introduced Reorganization Plan No. 1, providing for a Department of Welfare in the Cabinet which would administer affairs of health. That measure, which would have become effective unless one house of Congress moved to reject it, was killed by the Senate with 11 votes to spare.

Although that was a defeat for the President, it was not a crushing blow. He regrouped his forces and this year introduced Reorganization Plan No. 27, which would create a Department of Health, Education and Security. But this year's combination package was less tempting than the first offer, and the House of Representatives disposed of it decisively, 249 voting against it and only 71 approving. Among those rejecting the proposal were the six Representatives from Kansas, Congressmen Cole, Hope, Meyer, Rees, Scrivner and Smith.

The message of the President transmitting Plan No. 27 included a statement that the main feature of the 1949 plan which the Senate found objectionable, that professional judgment would be subject to nonprofessional domination, had been eliminated on this attempt. However, many in Congress and countless others throughout the nation saw added federal domination in the creation of a triple department. The plan provided for appointment of a Secretary of Health, Education and Security with an Under Secretary and an Assistant Secretary as top assistants. However, there was no requirement that any one of the three be a physician.

Senator Taft, in opposing the measure, compared the plan with that proposed by the Hoover Commis-

sion, establishment of a Department of Education and Security and an *entirely separate* Medical Administration. "The welfare people, like Oscar Ewing," he said, "want to run health as a kind of welfare service. The doctors and others feel that medical care and health is a special subject, which ought to be dealt with by people expert in the health field and not subject to welfare direction."

Enthusiastic approval of the measure was voiced by Oscar Ewing, who hoped to achieve Cabinet status by its adoption. Without referring to those persons who would administer the plan, he said, "To isolate our great programs of medical research and preventive medicine from federal agencies responsible for programs in fields of social security, welfare, vocational rehabilitation and education would greatly weaken the effectiveness of all these programs."

But arguments for and against this particular plan are no longer effective. The issue is dead for the present. It may recur later in a different guise, but the possibilities for its success are lessened with each attack that fails. A careful watch of both front and back doors must be maintained.

Kansas City Clinical Society to Meet

The 28th annual fall conference of the Kansas City Southwest Clinical Society will be held in Kansas City, Missouri, October 2-5, inclusive. Fifteen well known physicians will present the scientific program, and two lay speakers, Clem Whitaker and Leone Baxter, directors of the national educational campaign of the American Medical Association, will also appear on the program.

Scientific speakers who will take part are: Dr. Joseph S. Barr, orthopedic surgery; Dr. Brian B. Blades, surgery; Dr. Edward W. Boland, medicine; Dr. William L. Bradford, pediatrics; Dr. Edwin N. Broyles, otolaryngology; Dr. Paul R. Cannon, pathology; Dr. Bayard Carter, obstetrics and gynecology; Dr. Arthur Grollman, medicine; Dr. Elmer Hess, urology; Dr. Charles L. Martin, radiology; Dr. Alton Ochsner, surgery; Dr. Herman E. Pearse, surgery; Dr. F. E. Senear, dermatology; Dr. Dwight L. Wilbur, medicine; Dr. Irving S. Wright, medicine.

A.M.A. Meets in San Francisco

The annual meeting of the American Medical Association was held at San Francisco, June 26-30, with a total registration of 23,655. That attendance includes 10,119 fellows and members, with 56 present from Kansas. Official delegates from this state were Dr. John M. Porter, Concordia, and Dr. L. S. Nelson, Salina. Dr. Porter served as a member of the Committee on Executive Session.

Dr. Elmer L. Henderson, Louisville, Kentucky, was installed as president for the 1950-1951 year. Among officers chosen by the House of Delegates were Dr. John W. Cline, San Francisco, president-elect; Dr. R. B. Robins, Camden, Arkansas, vice president; Dr. George F. Lull, Chicago, secretary; Dr. J. J. Moore, Chicago, treasurer; Dr. F. F. Borzell, Philadelphia, speaker of the House of Delegates; Dr. James R. Reuling, Bayside, New York, vice speaker; Dr. Leonard Larson, Bismarck, North Dakota, and Dr. Thomas P. Murdock, Meriden, Connecticut, to the Board of Trustees.

Dues for 1951 were set at $25 by the House of Delegates. That membership fee will include subscription to the Journal of the A.M.A.

Fellowship in the scientific assembly was preserved and fellowship dues were set by the Board of Trustees at $2.00 per year. Fellows may elect to take a special journal in lieu of the Journal of the A.M.A., which they would ordinarily receive as members. This privilege is not extended to members who are not fellows in the scientific assembly.

The 1950 interim meeting of the A.M.A. will be held December 5-8, in Cleveland, Ohio.

Grant to K.U. Medical School

The postgraduate program of the University of Kansas School of Medicine received impetus last month when a large eastern foundation announced plans to give the school financial assistance. An immediate grant of $150,000 was pledged toward the erection of a building, with annual grants in the future for administration and teaching.

The $150,000 grant was immediately matched by another $150,000 given by business and industrial leaders in greater Kansas City and by the Kansas University Endowment Association. With the addition of other funds, the building will be constructed in conjunction with the proposed student union building and Battenfeld Memorial auditorium.

The postgraduate program will be expanded to include four projects:

1. Expansion of the circuit program. Teams of doctors now conduct lectures in eight Kansas cities once a month, bringing the latest developments in medicine to doctors in rural areas. Other states will be included.

2. Expansion of refresher courses at the University of Kansas Medical Center. More will be held.

3. Regional integration of certain existing hospital facilities for teaching purposes.

4. A demonstration program in the field of practical nursing, including setting up a model curriculum.

The new building will provide living quarters, a dining room and administration offices for visiting doctors.

SOCIALIZED MEDICINE

Editor's Note. This is the 12th of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.

Political Propaganda

The Democratic National Committee has served notice that the adoption of socialized medicine will be one of its major objectives. A few things must be clearly understood at the outset of this discussion. There are many Democrats who do not favor this program, just as there are many Republicans who do favor this program. It is not known at this time whether the Republican Party intends to take a similar stand or any stand on this issue.

A press release from William M. Boyle, Jr., national committee chairman for the Democratic Party, recently declared that compulsory health insurance would receive top billing for the fall campaign. He served notice that this would be an all-out battle against the doctors down to the precincts.

Mr. Boyle's threat has so far produced a pamphlet prepared and distributed by the Democratic National Committee entitled "Better Medical Care That You Can Afford." This is designed for easy reading and for mass distribution. Each page is illustrated with diagrams and pictures. The wording is simple, the implications direct. The introduction says, "This is a brief but complete picture of the President's National Health Program. It tells the facts about national health insurance and shows how and why it is one necessary part of a well-rounded proposal through which the whole nation can get better medical care that you can afford."

This pamphlet is a public statement to the voters of this nation, and as such it is presumed that republication of the material is permissible. This message will eventually reach millions of voters and it was felt that the doctors of Kansas should have knowledge of this material in the event that patients began asking questions.

Note in the material quoted below that the socialized medicine program is constantly referred to as insurance and that taxes become premiums. There is the bald statement that local and not federal control would operate the plan, that voluntary programs have failed because of their high cost, that under the government program no worker would pay more than $6.00 a month, that the President's plan would remove the "dollar barrier" from the present system of medical care. This is propaganda of a high order put out on a national scale. It should be carefully read by every doctor.

The text of the pamphlet follows:

"The U.S.A. has good medical care and public health services, good hospitals and clinics and medical schools, good doctors, dentists, nurses, sanitary engineers and other health workers. But did YOU ever have a sick child—with the nearest doctor miles away? Did YOU ever put off going to the doctor, or lie in a hospital bed and worry—because medical bills come so high?

"These things are happening every day to millions of Americans because our medical care is spotty, unevenly located—too few doctors and nurses, too few hospitals and health centers in most small towns and in the country—and because—even with medical care nearby, as in our big cities, too many people go without the medical care they need BECAUSE THEY CANNOT AFFORD IT.

"So most Americans have learned the hard way that sickness is costly and that health care and preventive medicine is a GOOD INVESTMENT, worth working for, with real teamwork in our home towns, our states and our nation.

"The President has proposed a program so that we can all work together to do two things—to get more medical facilities; to get rid of the dollar barrier that keeps patients from doctors.

"The President's plan calls for: More medical education through government aid ... more medical research through additional grants ... more hospitals and health centers through increasing federal financial aid ... more local public health work through increasing present government grants to the states ... more health protection for babies and children...

"All this will go a long way toward strengthening the ranks of our doctors and other health experts and providing the hospitals and equipment they need to work with.

"But medical care will not be shared fairly while the dollar barrier still stands. What can we do about that? The President proposes a common sense plan—remove the dollar barrier by everybody paying his share of the cost of medical care in small, regular payments.

"This is not an untried plan. It's just one more way of using the insurance principle—like accident or life insurance. It's also like social security, through which a worker provides job insurance and old-age benefits for himself, and protection for his children if he should die.

"Health insurance would be paid for the way workers now pay old age and survivors insurance premiums or as railway workers pay into the rail-

road retirement fund. A worker would pay 1½ per cent of earnings under $400 per month. No worker would pay more than $6.00 a month. Self-employed persons could be covered, paying only slightly more. It is paying for medical care on the principle of insurance on the installment plan. Employers would match premiums paid by people on their pay-roll.

"You could budget doctor bills. With this kind of insurance, you wouldn't have to meet medical bills at the worst possible time—when sickness strikes and you are least able to pay. Instead you could budget your medical expense, because you would pay a small regular amount out of each pay envelope.

"To spread the cost widely and keep operating expenses low, there would be a national health insurance fund in the U. S. Treasury. You would pay your premiums into this trust fund. From it funds would be transferred to your state, so that it could pay medical bills.

"Local control—your state—not Washington—would operate its own plan. And in your own community, home town people—including doctors and hospital heads—would keep arrangements for medical care in their own hands.

"You would choose your own doctor. You would not be assigned to a doctor. There would be no medical regimentation. But you wouldn't worry about fees. Your prepaid insurance payments would have taken care of them.

"The doctor would choose his patients. He would have the right to control his practice that he has now—but he would not have to worry about getting the bills due him paid. Your insurance would take care of that.

"Why do some people oppose it? Either because of self-interest or because they don't understand it. As a matter of fact nearly everyone in the U.S.A. wants more medical education and more doctors, more medical research, more hospitals and health centers, more community public health work, more health protection for children. And nearly everyone also agrees that the only way to pay for good medical care for everyone is to SPREAD the cost, to prepay the bill by insurance.

"Some people say—why can't voluntary insurance do the job? Voluntary plans HAVE helped. But they cannot really do the job because they charge a fixed premium without regard to income—and this is more than most people can pay; their operating costs are higher than national health insurance—with less money left for medical services; most of them don't provide such essential—but high-cost—services as doctors' home visits, laboratory tests, expensive medicines, or medical care for older people.

"NATIONAL HEALTH INSURANCE CAN DO THE JOB! You get the medical care you and your family need—and you pay for it while you are well and able to earn your salary. The doctor CAN give the kind of service he wants his patients to have—and his bills will be paid regularly without hardship on them.

"The doctor, and the whole health team, including YOU—as citizen and taxpayer—can work together for better health under the President's program—for more and better training and research, for more and better prevention, for more and better child health protection, for national health insurance.

"This all adds up to BETTER MEDICAL CARE THAT YOU CAN AFFORD."

The quoted material above will be distributed to people in all walks of life across the nation. It is designed by one political party to alter the present system of medical care. It was included in this series to give physicians this information and to enable them to reply intelligently to questions that may be asked on this subject. The answer has been given in other articles in this series, which will be continued in the future.

Two Special Courses at K.U.

Seminars on two topics of unusual interest will be held this fall at the University of Kansas Medical Center, according to announcement by Harold G. Ingham, director of the extension program in medicine at the center.

The first seminar, on October 26, will be on the uses of ACTH and cortisone, which are to be released for the use of the medical profession generally on November 1. The topic of the second is "Medical Aspects of the Atomic Bomb," a course intended primarily to assist doctors in giving cooperation in civilian defense activities in case a war should develop and involve the use of atomic bombs. The second seminar will be held on November 2.

CARE Book Fund

Gifts of 133 scientific and technical books valued at $800 made up the initial shipment to the Pakistan-Indian area last month under the CARE program, supplementing shipments to other Asiatic and European countries. Books valued at $160,000 have already been delivered to foreign educational institutions.

Donors of $10 or more may designate a specific foreign institution to receive its contribution and may select the type of books to be sent. All books are English language text and reference works. Contributions may be sent to CARE, New York.

BLUE SHIELD

Processing of Blue Shield Cases

During the month of June Blue Shield received and handled 3,640 service reports on which physicians were paid $149,844.76. Due to the gains in enrollment in which each succeeding year has seen the membership nearly doubled, the load of cases has been gradually increasing to the point where it is now a sizable operation in itself.

Perhaps participating physicians would be interested in seeing some of the steps which are taken in the processing of cases and particularly the method used to review the more unusual type of cases.

As soon as a service statement is received in the Blue Shield office the patient's membership is checked for eligibility of service; that is, the membership files are checked to determine whether or not the patient is a member and has paid current dues and to check the length of time in which the membership has been in effect. This latter point has a bearing in regard to eligibility for maternal benefits and tonsillectomies, both of which require waiting periods of eight months. Also the patient's record is checked to find out whether or not he has had any previous case experience.

When the question of eligibility has been settled, the cases received for the day are distributed to three members of the staff responsible for approval. These trained staff members decide all cases of a routine nature wherein the description of the procedure performed by the physician can be clearly tied in with the established payment schedule. For example, it would be routine to approve appendectomies, tonsillectomies, obstetrics, gall bladder operations, many gynecological procedures and a broad list of nearly 400 procedures which are clearly identified in the schedule of payments. Perhaps this group of routine cases accounts for 80 to 90 per cent of the case load. Thus the major part of the volume of work received each day is reviewed and approved within a period of not more than 48 hours after receipt.

The cases which have been approved are sent to the tabulating department where the information on the cases such as the code of the procedure, the amount to be paid, name and membership number of patient and code for the doctor is all punched into an I.B.M. tabulating card. Each day's work is balanced on machines and matched with the group of cases sent up for the day. These cases are then filed in what we refer to in office terminology as "the docs' box." (This, by the way, is the only time Blue Shield staff members refer to doctors as "docs.") At the end of the month when all cases to be paid have been processed, the tabulating department runs off the amounts to be paid to each doctor on a remittance advice form. These amounts are checked against the actual cases held in the "docs' box." In this way a cross checking for errors is maintained.

Difficult Cases

Presented above is a brief summary of the method of processing the normal or routine cases. However, approximately 10 per cent of the cases received cannot be decided or approved by the first review section. This group of cases is passed to a staff member whose training and experience qualify her for deciding the more unusual cases. Once such cases have been decided they, of course, are routed back into the routine and handled like the first group already discussed. A still smaller percentage of cases is referred to Mrs. Margaret Foster who has been in charge of case approval since the beginning of Blue Shield and who carries out the final screening job for all cases decided in the Blue Shield office. Quite a few of these are then returned to the routine after her decision.

Case Review Committee

A still smaller percentage of cases does not fit any particular pattern and must receive individual consideration by physicians whose knowledge is necessary to make the decisions. To meet this need a group of Topeka physicians serves on a Blue Shield Case Review Committee. The present Case Review Committee is as follows: Dr. Henry S. Blake, surgeon; Dr. Dwight Lawson, internist; Dr. Leslie L. Saylor, surgeon; Dr. Richard Greer, internist; Dr. Charles S. Joss, surgeon; Dr. Homer L. Hiebert, radiologist; Dr. H. W. Powers, E.E.N.T.

Not all of the members of the Case Review Committee participate in each week's meeting but they rotate in order that the time of any one physician may not be too much involved with Blue Shield problems. The Case Review Committee considers from 20 to 30 cases each week. The types of cases which they generally consider consist of unusual procedures not classified in the payment schedule, cases involving multiple procedures, procedures in follow-up surgery, a great deal of orthopedic work and skin grafts.

The committee is also faced with making interpretations of the Blue Shield members' agreement in those areas where it is difficult to decide the Blue Shield obligation. For example, the Blue Shield agreement rules out removal of non-cancerous tumors of the skin. There are many instances where a physician is needed to decide whether or not tumors fall within this classification.

The biggest part of the job of the Case Review

Committee is the determination of the amount to be paid on unclassified procedures. This is a job which none of the participating physicians would covet since it inevitably involves some degree of arbitrary determination. The committee has the difficult charge of keeping Blue Shield payments on unusual cases in line with the general scale of payments for listed procedures. The decisions are made more difficult when participating physicians fail to give a careful description of the work performed. There are many cases where a superficial description might mean anything from a minor to a major procedure. Of course, when the case is not reasonably clear, the Case Review Committee requests additional information before making a decision. In any decision made, the Case Review Committee would be most thankful if any participating physician would write a rebuttal when he does not feel a fair decision has been made. While the percentage of cases involving individual consideration is small, the actual process of bringing these cases before the Case Review Committee inevitably involves some delay in payment. It is to be hoped that participating physicians will understand that a delay in payment is probably due to the fact that the case has required more than the customary routine.

Blue Shield makes its payment to physicians around the first of each month for all cases which have been processed and completed by the 20th or 21st of each month.

A more careful description of the work performed would be of tremendous value in expediting case handling.

Liaison With Bar Association

Mr. G. L. Light of Liberal, president of the Bar Association of the State of Kansas, at the request of the Kansas Medical Society, appointed a seven-man committee on relations with the medical profession. The committee consists of Mr. Jack Copeland, St. John, chairman; Mr. Roy C. Davis, Hutchinson; Mr. Herbert Dietz, Great Bend; Mr. J. J. Mangan, Dodge City; Mr. Maurice A. Wildgen, Larned; Judge James H. Rexroad, Hutchinson; Mr. Walker W. Smith, Wichita.

It is envisioned that the major work of this committee will be with the Society's Committee on Mental Health. This committee has been working toward the formation of a new commitment law and sincerely appreciates the interest of the attorneys in this state in the preparation of such material that will be suitable for presentation to the legislature.

The legal committee is available, however, for utilization in other fields. This is another example of the Society's effort to cooperate more closely with other professional groups and represents a step forward toward uniting the interests of the legal and medical professions.

Health Education Services

Mrs. Bertha H. Campbell, director of Health Education Services for the Kansas State Board of Health, recently issued an annual report for the program she operates for the state. It is an impressive account of progress in the field of lay education covering a wide variety of topics.

By way of example, the free film lending library presented 8,137 film showings to an audience of 424,834 persons; 392,217 pieces of free literature were distributed to schools and individuals; 104 radio scripts were written and broadcast each week over five Kansas stations; more than 33,000 posters were sent out; the speaker's bureau of her staff made 302 talks to a total of 23,808 persons. Exhibits were produced and displayed in more than 100 meetings, including two state fairs. Venereal disease cards were produced and displayed in buses of nine Kansas cities, and many other services were rendered.

This health education project of the Kansas State Board of Health is a worth-while and valuable service to the people of this state which could be utilized without cost by physicians of Kansas for obtaining health material and programs for schools, clubs and individual use.

Blue Shield Relations Committee

At the 1950 meeting of the Kansas Medical Society a resolution was passed which added the Blue Shield Relations Committee to the list of official standing committees. The following members have been appointed to serve in that capacity: District 1, Dr. Edwin T. Wulff, Atchison; District 2, Dr. W. L. Pratt, Leavenworth; District 3, Dr. Charles H. Miller, Parsons; District 4, Dr. Harold F. Spencer, Emporia; District 5, Dr. Leland F. Glaser, Hutchinson; District 6, Dr. G. G. Whitley, Douglass; District 7, Dr. Donald A. Bitzer, Washington; District 8, Dr. Leo J. Schaefer, Salina; District 9, Dr. Floyd L. Smith, Colby; District 10, Dr. L. W. Reynolds, Hays, chairman; District 11, Dr. L. G. Glenn, Protection; District 12, Dr. R. G. Klein, Dodge City.

Cancer Grant to K.U.

A grant of $17,820 for the evaluation and development of laboratory tests for cancer under the direction of Dr. R. E. Stowell and Dr. J. H. Hill at the University of Kansas Medical Center was approved last month by the National Cancer Institute. It is one of 21 grants which total $352,800.

Case Report From The University of Kansas Medical Center

Disseminated Histoplasmosis—Death Due to Pulmonary Embolization

Clinical Pathological Conference

Edited by Glen R. Shepherd, M.D., and Mahlon H. Delp, M.D., from recordings of the conference participated in by the departments of medicine, otolaryngology, pathology, roentgenology, surgery, and the junior and senior classes of medical students.

Case Presentation

G. P., a 69-year-old white male, was first admitted to K. U. Medical Center on December 13, 1949. His chief complaints were fatigue, weight loss, hoarseness, productive cough, and fever. He had been well until 1939, when increasing fatigue and cough developed. During the next 10 years he had a gradual increase in fatigue and productive cough. During this period he lost approximately 40 pounds. For three months prior to admission the patient had daily fever to as high as 103°F. and frequent night sweats. About two months prior to admission here he became extremely hoarse and was admitted to a local hospital. Two laryngeal biopsies were taken. These revealed chronic inflammatory tissue. Tuberculin skin test was negative; histoplasmin was positive. Histoplasmin complement fixation test at that time was four plus. Patient was admitted here for diagnosis.

Past and family histories were non-contributory.

System review: Anorexia was noted for about two years. For one year he had considerable difficulty voiding and had nocturia one to five times a night. He had also had bronchial asthma since childhood. There had been increasing impairment of hearing for a number of years.

Physical examination: Blood pressure was 100/80, pulse 80 and regular, rate 28. Temperature was 101.4°F. The patient was a well developed, poorly nourished white male appearing chronically ill and barely able to speak in a whisper. Eyes, ears, and nose were essentially negative except for moderate deafness. Indirect laryngoscopy revealed complete destruction of the right vocal cord by a granulomatous appearing lesion. Neck was negative. Chest was emphysematous, with impaired resonance in the interscapular areas and in the right base in mid-axillary line. Subcrepitant rales were heard in right mid-axillary line. Rectal examination revealed two plus hypertrophy of the prostate.

Laboratory examination: Complete blood count showed 5,030,000 red blood cells, 74 per cent hemoglobin, 7,800 white blood cells, 80 polys (66 filamented and 14 non-filamented), 16 lymphs, one eosinophile, one basophile, one monocyte. Urine showed acid reaction, specific gravity 1.020, albumin negative, sugar negative, and 6-8 pus cells per high power field. Serology was negative. Chemistry showed N.P.N. 37.5, creatinine 1.2, sugar 75. Ten sputum examinations for acid fast and fungi were negative from December 14, 1949, to December 19, 1949. Four cultures were positive for histoplasma capsulatum. Tuberculin was negative, histoplasmin positive. Histoplasmin complement fixation was again four plus.

Hospital course: On admission the patient was started on 50,000 units crystallin penicillin every three hours and his temperature was normal on December 24, 1949. On December 15 there was dullness over the left lower lobe with bronchovesicular breathing and crackling rales. Penicillin was increased to 200,000 units every three hours. Daily elevation of temperature, however, continued. On December 17 the patient became unable to void and a retention catheter was inserted, 525 cc. of residual urine being obtained. Patient removed catheter and on the following day 700 cc. of residual urine was obtained. At this time both legs showed two plus pitting edema, were red but non-tender. Legs were elevated and hot packs applied. On the following day, edema and rales were absent. No thrombi were palpated. Elevation and packs were discontinued. On December 22, patient was started on sulfadiazine, grams 1.0 every three hours, and 2.5 mg. bacillomycin by aerosol inhalation. On December 26 the patient had moderate respiratory difficulty and chest was filled with ronchi throughout. A few fine crackling rales persisted in the right base. Liver was not palpable and no ankle edema was present. Aerosol bacillomycin was discontinued. On December 27 the patient suddenly became extremely cyanotic; pulse was 120 and blood pressure 80/60. Oxygen by nasal catheter was started and five cc. of coramine was given intravenously. Left chest was clear to percussion and auscultation. Moist rales were heard in the right base. Following coramine, the patient improved temporarily but again became very cyanotic and expired, heart ceasing before respiration.

Dr. Delp (Chairman): Are there any questions of Dr. Stockard?

Question: Did he ever have hemoptysis?

Dr. Stockard (Medicine Resident): No, no hemoptysis.

Question: Describe the sputum.

Dr. Stockard: The sputum was rather purulent.

Dr. Wilson (Hematology): Was any anticoagulant therapy given?

Dr. Stockard: No.

Dr. Cochran (Medicine): When was the electrocardiogram taken? I didn't notice.

Dr. Stockard: Previous to the acute episode.

Question: Was a Homans' sign noted?

Dr. Stockard: It was negative.

Question: What was the character of the fever which the patient ran?

Dr. Stockard: It was rather irregular; sometimes it was up all day and sometimes it was normal in the morning and came up in the afternoon.

Dr. Delp: Dr. Cochran, will you demonstrate the electrocardiogram which we have?

Dr. Cochran: The cardiogram shows two defects, one relatively minor. There is noted sinus rhythm, slightly prolonged PR interval and complete right bundle branch block. Unfortunately when a complete conduction defect is present, such as this right bundle branch block, it obscures the electrographic findings. However, the large size of that R wave still would raise the question of right ventricular enlargement.

Dr. McCarthy (Roentgenology): X-rays of this patient were made on two occasions. One was made on the 14th and one on the 24th, three days before he died. A nodular type of infiltration is seen involving only the upper lung on the right. Lateral views contribute nothing. In the interval from the 14th to the 24th there had been no appreciable change. The impression was only that we had a non-specific type of infiltration of the right upper lung. The remainder of the chest we considered free from disease. The cardiac shadow was practically normal.

Dr. Boley (Pathology): I would like to know how large those lesions are in the chest x-rays.

Dr. McCarthy: It is difficult to postulate that. I estimate the nodules to measure possibly two to three millimeters in diameter.

Dr. Delp: Mr. Holt, we would like to have your discussion of this case.

Mr. Holt (Student): In a patient that presents the symptoms that were seen here when the patient was first examined, I think one would most likely think of a tuberculous process. Against this diagnosis must be included these points. There were no tubercule bacilli found in the sputum, lack of a history of hemoptysis, and the negative skin test.

In considering pulmonary neoplasm, hemoptysis is a fairly common finding. Pain which is often associated with a pulmonary neoplasm occurs rather early and varying symptoms will result from pressure of the mass on the structures. I didn't get the history of pressure symptoms. Dyspnea, a fairly early and common symptom as a result of the bronchial obstruction, did not appear.

There is no history of cough or large amounts of sputum to suggest bronchiectasis. This patient did have the lung findings of emphysema that were probably due to the long-standing bronchial asthma. We must consider the mycotic infections such as actinomycosis, histoplasmosis, blastomycosis.

Pointing to the diagnosis of histoplasmosis is the positive skin test and culture.

As to the actual cause of death of this patient, I believe from the history he had a phlebothrombosis with resultant pulmonary embolism.

Dr. Delp: Mr. Holt, how would you classify this —assuming that it is histoplasmosis? Do you have

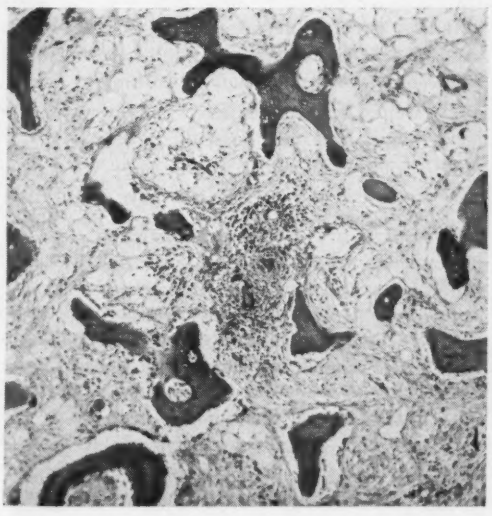


Figure 1. Granulomatous focus in bone marrow.

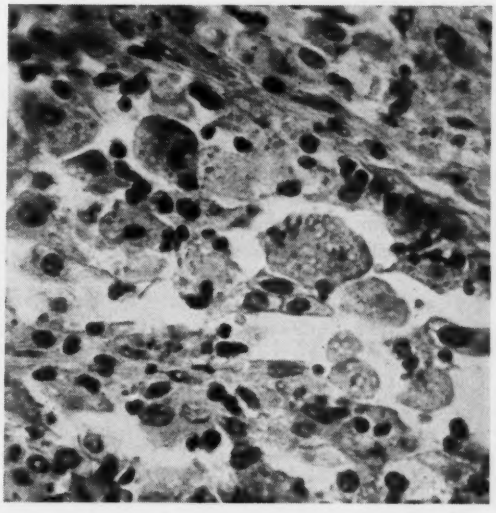


Figure 2. Macrophages with phagocytized organisms in adrenal gland.

any clinical classification that you would apply to it?

Mr. Holt: I would think of it as the disseminated form, in contradistinction to a localized, primary form.

Dr. Delp: Do you think that people live with the disseminated form of histoplasmosis—or do they invariably succumb?

Mr. Holt: I think they invariably succumb.

Dr. Delp: Mr. Coates, what do you think was the cause of death?

Mr. Coates (Student): I think it was due to pulmonary embolus with acute cor pulmonale.

Dr. Delp: Dr. Roberts, one or two questions. Do you think that this man on the morning of his death could have developed a pharyngeal edema of sufficient degree to cause death?

Dr. Roberts (Otolaryngology): The patient under discussion today I saw two or three times. I think that a pharyngeal edema is a very strong possibility.

Dr. Delp: This patient was receiving bacillomycin. How was it being given?

Dr. Stockard: By aerosol. We started him first with local irrigation, local spray on his larynx. He had no difficulties with that so we started him on aerosol.

Dr. Delp: Did it produce any apparent irritation of the respiratory tract?

Dr. Stockard: No. It had never been used that way before and we checked thinking it might.

Dr. Delp: Did it produce anything similar to pulmonary edema?

Dr. Stockard: No.

Dr. Allen (Medicine): I think the most likely cause of death was pulmonary embolism. With an antecedent history of swelling of the extremities and redness, I suppose that pulmonary embolization would be the first choice.

Dr. Delp: Dr. Cochran, they reported in the history that this man had dyspnea for a considerable period of time. He had asthma apparently all of his life. Would you think that from the electrocardiographic standpoint this man had arteriosclerotic heart disease or would you be willing to render some other possible explanation for his EKG changes?

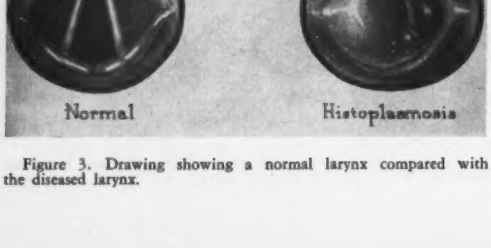


Figure 3. Drawing showing a normal larynx compared with the diseased larynx.

Dr. Cochran: As I inferred when we were looking at the tracing, complete right bundle branch block obscures the findings of right ventricular enlargement, which we might expect if this patient had developed chronic cor pulmonale over a long period from chronic emphysema and asthma. The right bundle branch block can simply be a part of arteriosclerotic heart disease. It does tend to occur somewhat more frequently in diseases of the right ventricle. But in any individual case that is of no help. There is a suggestion because of the rather large deflection present that right ventricular enlargement may be present as well as bundle branch block. I think that is about as far as I can go. It is not diagnostic by any means. If right ventricular enlargement is present, which I think, I'll go along with the idea that the patient had had a long standing emphysema, long enough to produce chronic cor pulmonale.

Dr. Delp: Well now, Doctor, do you think that the method of this man's exodus would be unusual for a patient with chronic cor pulmonale?

Dr. Cochran: This is a little rapid. How long did he live after his first seizure?

Dr. Stockard: About 20 minutes.

Dr. Cochran: That is a little more rapid than I have seen patients die as a rule from chronic cor pulmonale—that is of the type associated with emphysema and asthma. Of the type associated with pulmonary embolism it is compatible.

Dr. Delp: Then you are in favor of pulmonary embolization as the cause of death?

Dr. Cochran: Yes. It is a little rapid also for the average myocardial infarction. I would agree with Dr. Allen's interpretation of the antecedent history of thrombophlebitis. I think our best bet would be massive pulmonary embolism.

Dr. Delp: Dr. Friessen, from this information at hand, why do you think the patient died?

Dr. Friessen: I will have to agree with those who have seen the patient and have given their views. Pulmonary embolism seems to be most likely.

Dr. Delp: Dr. Gibson, will you give us the gross pathology?

Dr. Gibson: As to the actual cause of death of this patient, there was a long thrombus in the left iliac vein and emboli in both main pulmonary arteries. He also had acute dilatation of the heart, his myocardium showed nothing abnormal grossly and his pulmonary arteries were remarkably free of sclerotic plaques for a man of 69.

The other findings were as follows: At the base of the tongue near the epiglottis on each side there

was an irregular superficial ulceration measuring 2½ cm. in diameter. There was also a superficial depressed ulceration on the tracheal aspect of the epiglottis measuring 1½ cm. in diameter. The vocal cords were scarred and distorted and presented superficial necrosis. Edema in this area was not marked at postmortem. There were multiple small circumscribed umbilicated granulomatous lesions that were often ulcerated. They were present throughout the larynx, trachea, and extended into the main bronchial branches.

In the pleural cavities, there were 150 cc. fluid on each side and fibrous exudate on the lateral aspect of both lungs. The lungs were both heavy and doughy in consistency and presented areas of marginal emphysema throughout. On cut section, the lungs were moderately wet and had a fine granular appearance with increased consistency throughout. There were no areas of focal consolidation nor focal atelectasis seen. In the liver were a few small, indistinct, poorly circumscribed white nodules scattered throughout. The spleen was large and fibrotic.

A small cortical infarct was found in one kidney. Both adrenals were extensively infiltrated with grayish-white tissue that completely replaced the medullary and cortical tissue in many areas. The largest such mass measured three cm. in diameter. There was marked simple necrosis in some of the larger masses of soft hemorrhage. In the gastro-intestinal tract, multiple small submucosal nodules were scattered throughout. These were approximately ½ cm. in diameter and were present in the wall linings of the esophagus, the stomach, throughout the small and large intestine. In addition multiple, solitary, circumscribed, umbilicated as well as ulcerated lesions were present chiefly in the terminal ileum of the cecum. These were sometimes hemorrhagic and varied between one-half to one cm. in diameter. The bladder mucosa was somewhat hemorrhagic and there were a few small ulcerations scattered throughout. The mediastinal and mesenteric lymph nodes were all large, varying between one-half to 2½ cm. in diameter, quite hemorrhagic, and many of them exhibited small areas of central necrosis.

Our gross diagnoses then were thrombosis of the left ileac vein with pulmonary emboli, acute dilatation of the heart, and granulomatous lesions of the base of the tongue, the epiglottis, the larynx, trachea, bronchi, lungs, adrenals, gastro-intestinal tract, mesenteric and mediastinal lymph nodes, and possibly also the spleen and liver. Microscopically, these lesions were characteristic of histoplasmosis of disseminated character.

Dr. Wahl (Pathology): There is one thing I want to call your attention to. This man died from a pulmonary embolism. Histoplasmosis did not kill him directly, although indirectly it probably was a factor. One of these histoplasmotic granulomas that was in the wall of the blood vessel probably precipitated the thrombosis of the iliac vein. So indirectly it was responsible for the patient's death. Another thing, here we have granulomatous lesions in which the changes are in the lymph glands, the adrenal glands, and in the respiratory and intestinal epithelium of the intestinal tract and not primarily in the lungs except the bronchi and the larynx. What I wish to emphasize is that pulmonary lesions were only minor. The pulmonary lesions are no more extensive than those seen in the spleen or in the liver. The larger tubercules were, strange to say, in the lymph nodes and in the adrenal glands.

Summary

In this case we encounter a relatively uncommon disease, the diagnosis of which carries almost the same gloomy outlook as that associated with neoplastic malignancy. Here, however, the fatal termination resulted from commonplace pulmonary embolism secondary to thrombophlebitis. A long period of observation followed by pathological confirmation of widespread seeding of the granulomatous lesions gives further proof that disseminated histoplasmosis is not necessarily a rapidly fatal disease. The positive histoplasmin skin test fortified by positive complement fixation tests, positive sputum cultures and finally the microscopic pathological lesions presents a firm chain of diagnostic evidence.

Cancer Research Grant to K.U.

A research grant of $6,210 for the study of neoplasia by electron microscopy was awarded the University of Kansas Medical Center last month as part of a total of $1,160,818 allotted by the Public Health Service for the nation-wide attack on cancer. Dr. Robert E. Stowell will direct the project at the Kansas school.

Survey of Blood Banks

A recent survey of blood banks in this country, made by the A.M.A.'s Bureau of Medical Economic Research, showed that 1,636 blood banks and centers are now in operation. They are located in 951 cities of the United States and carry a current inventory of 76,000 pints. About 61,300 pints are in hospital blood banks, 6,100 are in Red Cross regional centers and 8,100 are in non-hospital banks.

Hospital blood banks issue 2.1 million pints, or 60 per cent, of the 3.5 million pints of blood used yearly. Red Cross centers issue 12 per cent, and non-hospital blood banks issue eight per cent of the amount used annually.

KANSAS STATE BOARD OF HEALTH

Laboratory Diagnosis of Viral and Rickettsial Diseases*

Increasing requests from Kansas physicians for a laboratory diagnostic aid in viral and rickettsial diseases have made it imperative that the Kansas State Board of Health Laboratories include a laboratory method applicable to the diagnosis of these diseases. With this thought in mind—that of rendering adequate service to the physicians of Kansas in their diagnosis of communicable diseases—the Kansas State Board of Health Laboratories last year established a complement fixation procedure in their routine tests for the following rickettsial diseases: Rocky Mountain spotted fever, Q fever, typhus, and rickettsialpox, and for the following viral diseases: western equine encephalomyelitis, St. Louis encephalitis, lymphocytic choriomeningitis, and mumps.

A laboratory procedure for these viral diseases seemed particularly indicated last summer during the poliomyelitis outbreak as these neurotropic viral diseases may on occasion resemble poliomyelitis. The limited physical facilities of the state laboratories made it necessary to adopt the complement fixation test as a diagnostic procedure. In other words, at present it is not possible to do virus isolation and identification and neutralization tests as we do not have a suitable building for such work. However, since the Kolmer complement fixation test is used routinely in the state laboratory, the establishment of a complement fixation procedure for the viral and rickettsial diseases was then altogether logical and feasible. Even after many years experience with complement fixation the establishment of a reliable method for the viral and rickettsial diseases was not without some difficulty.

One of the greatest difficulties in performing a reliable complement fixation test for viral and rickettsial diseases is finding a suitable technique or method. At present different laboratories are using different techniques. In reviewing the methods used in other laboratories one finds all manner of variation in the units of reagents used. The antigen is being used in one up to four units, the complement is used in 1⅓ up to two full units, the hemolysin is used in two or three units, and either a two per cent or three per cent sheep cell suspension is used.

Another important variant encountered is the fixation time. Some laboratories employ one-half hour to one hour fixation at 37°C, while others use over-night icebox fixation. Complement is titrated either in the presence or absence of antigen. All of these variations will have a pronounced effect on the sensitivity and specificity of the test. At present there is great need to evaluate these methods by parallel studies to establish the desired level of sensitivity and specificity. This type of evaluation will probably follow the development of more specific antigens. And since there are no standards, it is easily seen that anyone undertaking complement fixation testing for viral and rickettsial diseases must have a good basic knowledge of the complement fixation test as such in order to properly appraise the various methods.

Securing satisfactory antigens is another problem which must be overcome in the performance of a reliable complement fixation test for viral and rickettsial diseases. At present viral and rickettsial antigens are not standardized; in other words the manufacturers do not know where to set their sensitivity level. In our hands some antigens have proven unreliable, some have become anti-complementary in a very short time, and in others the antigenic titer is too low. It is necessary to do a preliminary test on antigens with a known positive and negative serum. In reviewing the literature a divergency of opinion is found regarding the specificity of Rocky Mountain spotted fever antigen and rickettsialpox antigen. Some observers maintain there is marked crossing between spotted fever and rickettsialpox in which the serum from a case of spotted fever may give a higher titer with rickettsialpox antigen than with spotted fever antigen.

Before anyone can undertake to do a reliable complement fixation test for viral and rickettsial diseases it is necessary to obtain and keep positive serum controls for the respective antigens to be used. This is relatively easy for typhus, Rocky Mountain spotted fever, and Q fever; these sera can be obtained from several sources. Immediately after receiving the sera 0.2 cc. amounts are tubed and stored in the deep-freeze. Greater difficulty is encountered in securing and keeping positive sera for the viral diseases; either the sera would have no titer or would be anticomplementary. Eventually lyophilized, positive sera has been obtained which has a good titer and keeps well in the deep-freeze.

The importance of satisfactory specimens cannot be emphasized too much in a discussion of dependable complement fixation tests for these diseases. Single tests for complement fixation antibodies are of little value because of the presence of such antibodies in many individuals. Results of serologic tests are of significance only when it can be demonstrated that the antibody antigen has increased between the onset of illness and the stage of convalescence. It is therefore essential that the lab-

*By Cecilia Jones, A.B., Senior Serologist; Frank Victor, B.S., Principal Serologist; and Charles A. Hunter, Ph.D., Director of Public Health Laboratories, Division of Public Health Laboratories, Kansas State Board of Health.

Constipation in the Aged...

The commonly encountered constipation of the older age group may result from reduced activity, lack of appetite for bulk-producing foods and inadequate ingestion of fluids.

By providing hydrophilic "smoothage" and gently distending bulk, Metamucil encourages normal physiologic evacuation without straining or irritation.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

METAMUCIL® is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. G. D. Searle & Co., Chicago 80, Illinois.

RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**

oratory have at least two specimens: the first as soon after onset as possible, the second about two weeks after onset or as the suspected disease indicates. It has been found that this information is not well established among physicians. It is with the purpose of better serving the medical profession that a handbook containing this information is being prepared for distribution among the physicians of Kansas.

The complement fixation procedure now used in the state laboratories is according to the Bengston technique which employs four units of antigen and two full units of complement. Fixation takes place during one hour's incubation at 37°C. This technique is not as sensitive as other methods tried by us, but it is believed whatever sensitivity is lost is more than compensated by the more specific results obtained.

Since the hemolytic or indicating system is of utmost importance in any reliable complement fixation test, it is desirable to discuss our source and preparation of the reagents included in this system.

Complement. Complement is obtained by bleeding 25 to 30 guinea pigs from the heart; the blood is allowed to remain at room temperature until well clotted, after which it is placed in the refrigerator for about two hours to permit further expression of serum from the clots. The serum is then collected, centrifuged to remove the cells, and pooled. The pooled serum or complement is tubed in five cc. portions and stored in the deep-freeze. It has been found that complement so treated and stored remains usable for at least a week.

Sera from such a large number of guinea pigs proved to be satisfactory since it does not show nonspecific fixability, does not contain antisheep hemolysin, and does have good hemolytic activity. The complement is titrated both with and without the presence of antigen. Some workers observe the complement titration is now altered appreciably by the presence of antigen. It has been our experience that antigens vary the hemolytic effect of complement to a marked degree; for example, the Rocky Mountain spotted fever antigens studied actually enhance the hemolytic effect of complement, which is shown by the fact complement titrated in the presence of Rocky Mountain spotted fever antigen will give a higher reading than complement titrated without this antigen, whereas the typhus antigen studied lowers the titer of the complement to a noticeable degree. The range of complement used has been from 1-18.2 up to 1-30.3; it is our opinion that complement should not be used in a dilution lower than 1-18.2 or higher than 1-30.3.

Hemolysin. The hemolysin used is prepared in our laboratories by inoculating rabbits with washed sheep cells. It is preserved with an equal volume of glycerine. The hemolysin we are currently using has a titer of 1-10,000.

Sheep's Red Blood Cells. Recently it has been pointed out that cells from individual sheep may vary in resistance to complement activity from a negligible degree to a point at which they are entirely unsuitable. Experience has proven that the reliability of the complement fixation test depends largely on the quality of the sheep red cells. Our method for obtaining quality sheep red cells is as follows: red cells from several sheep are pre-tested for cell resistance to complement activity, and the sheep having suitable red cells is then procured; this sheep is bled aseptically from the jugular vein, at which time enough blood is taken to supply all the red cells needed for a month.

In many laboratories the two per cent cell suspension is never questioned for accuracy. Observation has shown it is not always possible to obtain a two per cent cell suspension by merely reading the volume of packed cells in a conical, graduated centrifuge tube and making up the cell suspension accordingly. The cell suspension is always checked by taking out two 15 cc. portions of the suspension and placing them in two conical, graduated centrifuge tubes. These two samples are then centrifuged at 2,000 rpm. for 10 minutes. If then the volume of packed cells is 0.3 cc. for 15 cc. of the suspension, a two per cent suspension is assured; if not, a correction can be made by the addition or subtraction of saline from the suspension to be used.

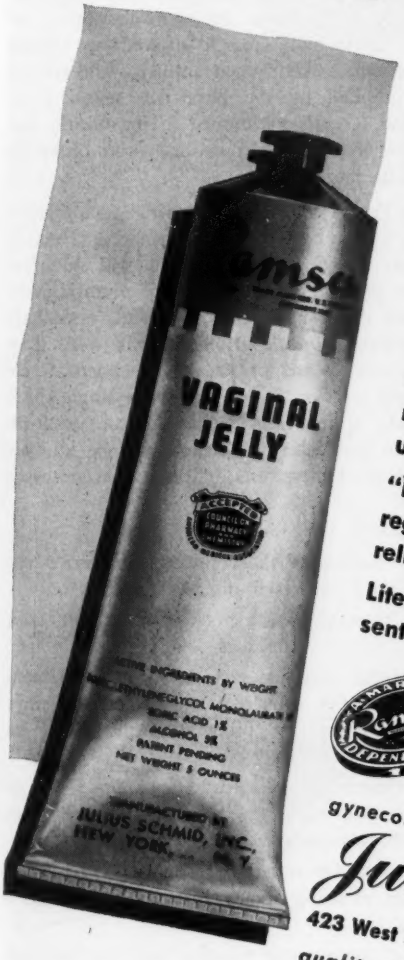
Physiological Salt Solution. The physiological saline is one of the most important and least emphasized reagents used in the complement fixation test. The sodium chloride must meet A.C.S. specifications. There are some variations in brands; in our hands Mallinckrodt's analytic reagent grade sodium chloride has been uniformly satisfactory.

Distilled water is the greatest variable encountered in this reagent; it must (1) be free from chlorine, (2) have a pH of approximately six, and (3) be free from volatile organic compounds. To obtain such quality distilled water it is necessary to double distill and collect the fraction which meets these specifications. The addition of 0.1 gm. magnesium sulphate per liter is also required. The use of saline not meeting these specifications will result in lowered hemolytic activity of the complement, which will be particularly noticeable in the hemolysin and complement titration. This would appear to indicate poor quality complement when in reality the saline is at fault. The prepara-

There is no better product..

Ramses
TRADEMARK REG. U.S. PAT. OFF.

VAGINAL JELLY



ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

meets or exceeds every requirement of the Advisory Committee on Contraceptives of the American Medical Association. It is never advertised to the laity and is suggested for use only under the guidance of the physician.

The crystal clarity, agreeable odor, and elegant appearance of "RAMSES"* Vaginal Jelly† make it esthetically acceptable even to the most fastidious patients. As it is nonirritating, nonstaining, and nontoxic, no untoward effects follow its use.

"RAMSES" Vaginal Jelly is available in regular- and large-size tubes through any reliable prescription pharmacy.

Literature and professional samples will be sent to physicians on request.

A MARK OF Ramses DEPENDABILITY

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc. †Active ingredients: Dodecaethyleneglycol Monolaurate 5%; Boric Acid 1%; Alcohol 5%.

gynecological division

Julius Schmid, Inc.

423 West 55th Street, New York 19, New York

quality first since 1883

tion of the cell suspension and physiological salt solution are usually considered a simple matter and are not given the attention they deserve. These two reagents are quite often at fault and should be checked for quality and accuracy to assure maintenance of a sensitivity level whereby one may expect comparable results.

Report of Tests and Results

Serologic Survey of Q fever in veterinary students at Kansas State College was undertaken because of the previous occurrence of Q fever among individuals working with livestock. Of the 254 sera from veterinary students examined for Q fever, 251 of these were not reactive in the 1-4 dilution. Three (1.2 per cent) of this group had complement fixing antibodies; two had a titer of 16 and one had a titer of eight. As yet no clinical history has been obtained from the three students showing complement fixing antibodies. It has been established that such antibodies persist for some time following illness proved to be Q fever; nevertheless, diagnostic significance cannot be attached since no data are available which will allow the assumption of any particular serum titer as being significant of a previous attack of Q fever.

Rocky Mountain Spotted Fever. Kansas is a state in which Rocky Mountain spotted fever is practically unknown. Until recently reported cases have been from individuals who had contracted the disease in other states. It seems unreasonable to assume that Rocky Mountain spotted fever cannot be contracted in Kansas since some of the transmitting vectors are found in this state. Agglutination tests using Proteus OX-19 as antigen have been run on more than 100,000 blood specimens which yielded the usual number of positive and negative results, yet among this large number of specimens not one clinical case was found. The Weil-Felix reaction using Proteus OX-19 as antigen is a nonspecific test giving uncertain results; it is a well established fact that the Weil-Felix reaction can give both positive and negative results in clinical cases of Rocky Mountain spotted fever, and positive results in cases which are not Rocky Mountain spotted fever. The complement fixation test, however, has a distinct advantage over the Weil-Felix reaction in that it is highly specific and may be used to differentiate Rocky Mountain spotted fever from murine typhus, epidemic typhus, and Q fever. The use of the complement fixation tests has discovered several cases in the last year. One case in particular had a low titer (1-80) with Proteus OX-19, but the complement fixation test for Rocky Mountain spotted fever was positive. It is possible that the low incidence of Rocky Mountain spotted fever may be due to the inability of the agglutination test to give a positive reaction in early clinical cases. Bengston and Topping (1942) have reported the complement fixation test is frequently positive before the Weil-Felix reaction.

Report of a Clinical Case. Last fall a specimen of blood was received in our laboratories with a note from the physician stating the patient was very ill, had a high temperature—tentative diagnosis, septicemia. Agglutination tests were done on this specimen; the Weil-Felix test gave a titer of 1-640. Complement fixation tests for typhus murine, Q fever, and Rocky Mountain spotted fever were then set up; typhus murine and Q fever tests showed no reaction, and the Rocky Mountain spotted fever test gave a titer of 1-2,048. A duplicate specimen was sent to the Communicable Disease Center for checking; their results confirmed our complement fixation test with Rocky Mountain spotted fever, but at the same time their report was confusing when it showed an equally high titer with rickettsialpox antigen. The clinical history, supplied by the physician, revealed the patient had recently vacationed in the Ozarks and upon questioning recalled he had been bitten by a tick while there.

Virus Tests. During last year's poliomyelitis outbreak a number of specimens were received from cases in which the diagnosis was questionable. Complement fixation tests for mumps, western equine encephalomyelitis, St. Louis encephalitis, and lymphocytic choriomeningitis were done on these sera. None of the 41 specimens tested showed any reaction. Since these were single specimens taken at any time during the course of the disease, no particular significance can be attached to the results of these tests. These studies are being continued.

Summary

1. The success of the complement fixation test for viral and rickettsial diseases depends on:

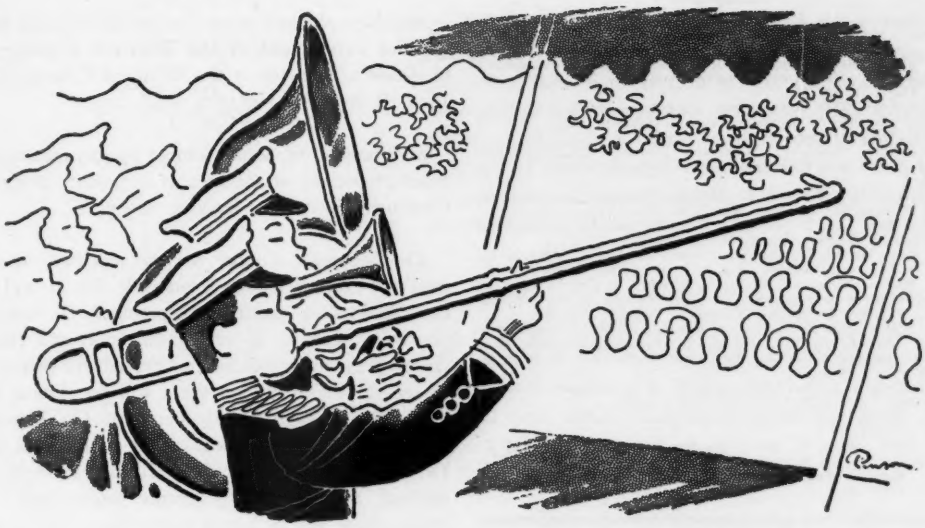
A. A thorough knowledge of the basic complement fixation techniques.

B. Reliable reagents, such as good complement, accurate two per cent red cell suspension, physiological salt solution prepared with quality reagents, and dependable antigens.

C. Satisfactory specimens. Two specimens are necessary—one taken at onset and another taken during convalescence of illness.

2. A need for standardization of antigens and techniques to bring about uniformity of results is indicated.

3. The complement fixation test for viral and rickettsial diseases, when performed with the ut-



Two Instruments of hope *in petit mal*

For four years, there was one high note of hope for the 100,000 or more victims of *petit mal*. This was offered by TRIDIONE, the first Abbott-developed, synthetic anticonvulsant. Its dramatic therapy restored many children, once seizure-ridden, to happy, normal lives. Soon after introduction, it was called "clearly the drug of choice in the treatment of the *petit mal* triad."[1]

But then, in 1949, PARADIONE—homologue of TRIDIONE—emerged from three years of clinical testing as an equally effective agent for the symptomatic control of *petit mal*, myoclonic jerks and akinetic seizures. Although similar in action to its predecessor, PARADIONE proved successful in many instances where lack of response or intolerance had made TRIDIONE therapy infeasible.

The value of both drugs is well documented in medical journals. Please see the literature, however, before administering either TRIDIONE or PARADIONE. There are certain techniques, precautions which must be observed. Just drop us a card. All prescription pharmacies have TRIDIONE and PARADIONE in tablets, capsules, solutions.

Abbott Laboratories, North Chicago, Illinois. Abbott

Tridione
TRIMETHADIONE, ABBOTT

Paradione
TRADE MARK
(PARAMETHADIONE, ABBOTT)

most respect for detail, can be of great value as a diagnostic tool.

Bibliography

1. Bengston, Ida A.: Complement Fixation in the Rickettsial Diseases. Technique of the Test. Public Health Reports, 59:402-406.
2. The Serological Diagnosis of Rickettsial Diseases. Laboratory Manual. Fed. Sec. Agency. P. H. Service. Lab. Div. C.D.C. Atlanta, Ga.
3. Kolmer, John A.: Kolmer Complement Fixation Test for Syphilis. Manual of Serologic Tests for Syphilis, Supp. #22 to J. V. D. I. P. H. Service 1949.
4. Smadel, Joseph E.: Rickettsial Diseases. Diagnostic Procedures for Virus & Rickettsial Diseases. Am. P. H. Ass. 1948 p. 316-322.
5. Hammon, W. McD.: Encephalitis. Diagnostic Procedures for Virus & Rickettsial Diseases. Am. P. H. Ass. 1948 p. 214-215.
6. Enders, John F.: Mumps. Diagnostic Procedures for Virus & Rickettsial Diseases. Am. P. H. Ass. 1948 p. 152-157.
7. Cox, Herald R.: Specific Complement-Fixing Antigens for Viral & Rickettsial Diseases. Am. J. P. H. 38:351-360 (1948).
8. Strauss, Elias, and Sulkin, S. Edward: Studies on Q Fever Complement-Fixing Antibodies in Meat Packers at Fort Worth, Texas. Pro. Soc. Exper. Bio. & Med. 67:139-141 (1948).
9. Strauss, Elias and Sulkin, S. Edward: Q Fever, Complement-Fixing Antibodies with C. burnetii in Various Geographic Areas and Occupational Groups in the United States. Am. J. of P. H. 39:492-502 (1949).
10. Rich, A. B., and Hill, Austin E.: Q Fever Survey in Southwest Texas. Am. J. P. H. 39:486-491 (1949).
11. Barker, Leslie Paxton: Rickettsialpox. J.A.M.A. 141:1119-1123 (1949).
12. Bell, Joseph A., Beck, Dorothy, and Huebner, Robert J.: Q Fever in Southern California. J.A.M.A. 142:868-872 (1950).
13. Bengston, Ida, and Topping, Norman. Am. J. Public Health 1942 32:48-58.

COUNTY SOCIETIES

A meeting of the Central Kansas Medical Society was held at St. Anthony's Hospital, Hays, June 15. The following papers were presented: "Hemolytic Anemia," Dr. H. Alden Flanders; "Pathological Fractures," Dr. John Thurlow; "Observations on Skin Malignancies," Dr. A. M. Cherner; "Interesting Stomach Lesions," Dr. Lloyd W. Reynolds; "Tumor Studies," Dr. Philip Clark. In the evening the society entertained members of the Auxiliary as dinner guests and presented a Blue Shield program with Mrs. Margaret Foster and Mr. Procter Redd, Topeka, as speakers.

* * *

Members of the Riley County Society were hosts to the Golden Belt Medical Society at a meeting held at the Manhattan Country Club July 6. The scientific program, presented in the afternoon, was followed by a dinner meeting. Dr. J. Milton Singleton, Kansas City, Missouri, spoke on "Observations on Clinical Results in Cauterization of the Postpartum Cervix," and showed a sound movie on "Care and Treatment of the Breast." Dr. John Lyon, of the University of Colorado School of Medicine, Denver, discussed "Basic Concepts of Psychosomatic Medicine."

* * *

The Crawford County Society sponsored a broadcast over Station KSEK, Pittsburg, July 3, a transcription of a speech made in Topeka recently by Dr. Ralph J. Gampell before the annual meeting of the Kansas State Chamber of Commerce. Dr. Gampell, who had practiced in England under that country's form of socialized medicine, told his impressions of that plan.

* * *

Members of the Cowley County Society and their families were guests of the Winfield Academy of Medicine at a picnic at the Winfield Country Club June 29.

* * *

Members of the Saline County Society entertained other physicians of the area at a "pasture party" at Grainmen's Lake near Bavaria on July 27.

* * *

The Sedgwick County Society will hold its annual fall clinical session September 20, 21 and 22. On Wednesday morning, September 20, visiting physicians may go to various hospitals and choose from operating schedules the procedures they wish to see. In the afternoon there will be clinical presentations by local society members. On Thursday there will be clinical pathological conferences with Dr. J. B. Fisher and Dr. J. S. Hibbard in charge of medical and surgical programs respectively. On Friday there will be a golf tournament, followed by a banquet.

* * *

A meeting of the Sumner County Society was held at St. Luke's Hospital, Wellington, June 19. Dr. Roy C. Knappenberger, Wichita, spoke on "Common Diseases of Children."

Nuclear Study Available

Physicians at the University of Kansas Medical Center who are taking graduate training are now eligible to study nuclear physics and the application of atomic energy to medicine at the Institute for Nuclear Studies, Oak Ridge, Tennessee. The Kansas school was accorded this recognition by the board of directors of the institute at a recent meeting.

Physicians who study at the atomic energy laboratories will have the opportunity to do research work on the peaceful aspects of atomic energy and radioisotopes. They will learn the newest techniques and tools in cancer and metabolic research. Dr. C. Frederick Kittle, who was recently selected by the department of surgery at the medical center for a clinical fellowship award from the American Cancer Society, Inc., will be the first doctor from the Kansas school to study at Oak Ridge under this arrangement.

The Atomic Energy Commission also announces that complete files of non-secret reports on atomic energy are being made available to 31 American libraries throughout the country. Approximately 3,500 reports are now completed and 1,500 new reports are issued each year.

AUREOMYCIN

CRYSTALLINE

in Infections of the Puerperium

During the past year, obstetricians have become increasingly impressed with the ability of aureomycin to prevent or arrest infections of the puerperium. Where infection is feared, or has appeared, this broadly effective antibiotic is highly useful. Drug fastness and allergy are very rare following aureomycin. It is believed that this new crystalline form of aureomycin obviates nearly all side reactions.

Aureomycin

Capsules:
Bottles of 25, 50 mg. each capsule.
Bottles of 16, 250 mg. each capsule.

Ophthalmic:
Vials of 25 mg. with dropper, solution prepared by adding 5 cc. of distilled water.

Aureomycin has also been found effective for the control of the following infections:

Acute amebiasis, bacterial infections associated with virus influenza, bacterial and virus-like infections of the eye, bacteroides septicemia, boutonneuse fever, brucellosis, chancroid, Friedländer infections (Klebsiella pneumonia), gonorrhea (resistant), Gram-negative infections (including those caused by some of the coli-aerogenes group), Gram-positive infections (including those caused by streptococci, staphylococci, and pneumococci), granuloma inguinale, *H. influenzae* infections, lymphogranuloma venereum, peritonitis, pertussis infections (acute and subacute), primary atypical pneumonia, psittacosis (parrot fever), Q fever, rickettsialpox, Rocky Mountain spotted fever, sinusitis, subacute bacterial endocarditis resistant to penicillin, surgical infections, tick-bite fever (African), tularemia, typhus and the common infections of the uterus and adnexa.

LEDERLE LABORATORIES DIVISION

AMERICAN Cyanamid COMPANY

30 Rockefeller Plaza, New York 20, N. Y.

ACTIVITIES OF MEMBERS

Dr. John N. Sherman, Chanute, resigned last month as health officer for Neosho County. Dr. J. D. Gough, Chanute, accepted appointment to the office.

* * *

Dr. William G. Weston, Arkansas City, was recently elected president of the Tri-County Medical Society, succeeding Dr. L. G. Neal of Ponca City, Oklahoma.

* * *

A new building is being constructed in Parsons for the seven physicians on the staff of the Parsons Clinic. They are Doctors Charles H. Miller, M. C. Ruble, R. W. Urie, Earl A. Martin, Charles F. Henderson, Guy W. Cramer and John B. Dixon.

* * *

Dr. Philip W. Morgan, Emporia, addressed the Rotary Club at Burlington on the subject of heart disease at a meeting held June 22.

* * *

Dr. Robert B. Wilson, Kansas City, has been named to the board of directors of the Kansas City Society for the Hard of Hearing.

* * *

Dr. L. A. Donnell, member of the board of city commissioners of Wichita, resigned from the city administration last month to devote time to his campaign for nomination to Congress from the Fourth District.

* * *

Dr. and Mrs. Warren Morton, Green, were guests of honor at a dinner given by the Clay County Medical Society on June 14. Dr. and Mrs. Morton are moving to Seattle, Washington.

* * *

Dr. J. G. Lee, Jr., Kansas City, has filed for the Republican nomination for coroner of Wyandotte County. He was recently appointed to that office to fill the unexpired term of Dr. Ray Busenbark.

* * *

Dr. Herbert Randles, Fort Scott, observed his 50th anniversary in the practice of medicine last month. For 41 years he practiced in White City, leaving there in 1941 to join his son, Dr. Leland P. Randles, in practice in Fort Scott.

* * *

The Hertzler Clinic, Halstead, announces that Dr. John I. Waller, formerly of Indianapolis, Indiana, is now a member of the staff and is chief of the Department of Urology.

* * *

Dr. H. M. Webb, Humboldt, who has practiced there more than 40 years, was honored at a community reception held at the Humboldt Methodist Church June 28.

* * *

Dr. H. O. Anderson, Wichita, was a speaker at a district meeting of the Kansas Social Workers Association held at Wichita June 30. He spoke on orthopedic conditions.

* * *

Dr. James D. Colt, V, Manhattan, is taking a surgical residency at Buffalo General Hospital, Buffalo, New York.

* * *

Dr. John R. Adams, of the Menninger Foundation, Topeka, became a diplomate of the American Board of Neurology and Psychiatry last month, having completed examinations in San Francisco in June.

* * *

Dr. George Basham, Eureka, has enrolled for postgraduate work at the Cook County Graduate School of Medicine, Chicago.

* * *

Dr. A. C. Irby, Fort Scott, is in Kansas City for a year's postgraduate work in the children's division of the University of Kansas Medical Center.

* * *

Dr. D. C. McCarty, Medicine Lodge, has been appointed medical adviser for the American Red Cross blood program in Barber County.

* * *

Dr. Hector Morrison, Smith Center, celebrated his 50th anniversary in the practice of medicine on July 10. He first practiced at Womer, moving to Smith Center in 1907.

* * *

Dr. R. A. Schwegler, Jr., Lawrence, announces that Dr. R. L. Hermes is now associated with him in the practice of obstetrics and gynecology. Dr. Hermes has been senior resident in obstetrics and gynecology at the Southwest Medical School at Dallas, Texas, during the past three years.

* * *

The Randles Clinic, Fort Scott, announces that Dr. G. Keith Kennard, who recently finished his internship at Philadelphia Naval Hospital, is now a member of the staff. Dr. Kennard was graduated from the University of Kansas School of Medicine in 1949.

* * *

Dr. L. E. Filkin, Concordia, left July 19 for two months graduate work in obstetrics and gynecology at the Harvard School of Medicine, Boston.

* * *

Dr. Fred Emery, formerly of Seneca and Des Moines, is now practicing surgery in Concordia in association with Dr. E. R. Gelvin.

Your Cosmetic Budget

During the course of the year you spend a certain sum of money for beauty preparations. This sum of money represents your Cosmetic Budget. As with all budgets, it can be spent intelligently or squandered aimlessly.

Regardless of economic trends, it is always wise to give careful consideration to the act of buying.

We suggest it is both economical and more effective to buy a well-balanced cosmetic service composed of preparations selected with regard to your particular requirements and preferences, and that you will therefore welcome the services of the Cosmetic Consultants who distribute our preparations in your community.

LUZIER'S, FINE COSMETICS AND PERFUMES

Are Distributed in Kansas By:

BURBRIDGE AND BURBRIDGE, Divisional Distributor
519-520 Continental Bank Building
Lincoln, Nebraska

Distributors

BEULAH CHINN
324 No. Rutan
Wichita 8, Kansas

MAXINE DELFORGE
1911 Grove St.
Topeka, Kansas

GLADYS P. MILLER
606 E. Simpson
McPherson, Kansas

VERYL DODSON
610 W. Walnut
Dodge City, Kansas

RICHARD E. EAKIN
313 Walnut
Dodge City, Kansas

VENA HAZELL
401 East 9th
Hutchinson, Kansas

ERMA WELLS
Room 200, 635 Kansas
Topeka, Kansas

O'DELL & O'DELL
P. O. Box 112
Lawrence, Kansas

JUANITA DOUGLASS
846 S. Spruce
Wichita 16, Kansas

OTTIE HOOD
P. O. Box 309
Hutchinson, Kansas

KATHLEEN SCOGGIN
707½ Commercial
Atchison, Kansas

Dr. V. J. Elson, Paola, has returned from Chicago where he took a postgraduate course in cardiology at Cook County Hospital.

* * *

Dr. Eugene Walsh, Onaga, was named grand knight of the Wheaton Council of the Knights of Columbus at a meeting held in July.

* * *

Dr. H. J. Deeths, Atchison, has announced that he is moving to Sherman Oaks, California, and will practice there.

* * *

Dr. William F. McGuire, Wichita, recently became a diplomate of the American Board of Pediatrics.

* * *

Dr. Warford B. Johnson, formerly of Wichita, is now associated with the Veterans Administration Hospital, Big Springs, Texas.

Psychiatric Training in Topeka

Forty young doctors began graduate training in psychiatry in Topeka on July 1. They are enrolled in the Menninger School of Psychiatry, where 64 other physicians are entering their second and third years of the formal three-year training program, making up the largest number being trained at any one center in the world.

Eleven of the new fellows are residents at the Topeka State Hospital and 29 are at Winter VA Hospital. They will have an opportunity to spend part of their training period at the clinic and hospital of the Menninger Foundation, or at the Southard School if they are particularly interested in child psychiatry.

The Topeka State Hospital also provides opportunity for study for other groups. Twenty-eight new students, attendants, nurses and psychiatric aides, are now taking a one-year training course conducted under the cooperative efforts of the Menninger Foundation, the Rockefeller Foundation and the hospital. They make up the second class for the course, the first to complete training October 1. Four other classes will be accepted at intervals of six months in the present experimental program.

Cortisone Now Available

Cortisone is now available to a large number of hospitals throughout the United States under the trade name Cortone, it was announced recently by Merck and Company, Inc., who first produced the drug by chemical synthesis.

For a temporary time Cortone will be supplied only to those hospitals having certain minimum facilities operated by trained technicians and under the supervision of qualified physicians. A total of 6,500 hospitals registered by the American Medical Association meet those requirements. The drug is to be used, during the initial period of treatment, only in patients hospitalized in these institutions.

Cortone will be delivered to these hospitals in packages of three vials, each vial containing 300 milligrams of the substance. The price to hospitals will be $28.50 per vial, equivalent to $95 per gram. This is the fourth in a series of price reductions which have brought the price down from an original figure of $200 per gram, the amount first paid by qualified clinical investigators.

Although the complex chemical nature of this substance and the scarcity of raw materials have imposed unprecedented manufacturing difficulties, the supply of the drug is now more than sufficient to cover all the needs of clinical investigation and other research. When applied to the treatment of disease, however, present supplies and production of this compound are unfortunately far short of the total needed to treat all the patients with diseases for which Cortone is recommended.

DEATH NOTICES

JAMES HENRY BOSWELL, M.D.

Dr. J. H. Boswell, 71, an honorary member of the Cherokee County Medical Society, died June 16. He had practiced in Baxter Springs 41 years, until his retirement four years ago. He was a graduate of the Northwestern University School of Medicine in 1905.

* * *

THOMAS AUGUSTINE O'CONNOR, M.D.

Dr. T. A. O'Connor, 60, died at his home at Topeka July 8 after suffering a heart attack. He was graduated from the St. Louis University School of Medicine in 1914 and opened his office in Topeka immediately, remaining in active practice until his death. He was a member of the Shawnee County Medical Society.

* * *

FAY EDWARD KUNCE, M.D.

Dr. F. E. Kunce, 69, a member of the Sedgwick County Society, died July 16 at Wichita. He received his medical degree in 1916 from Loyola University School of Medicine, and began practice at Tipton, moving to Wichita in 1922. After a heart attack several years ago he retired and went to California, returning to Wichita as soon as he was able to resume his practice.

a long and distinguished career in urography

NEO-IOPAX®

(brand of sodium iodomethamate)

An 18 year history of dependable roentgenograms obtained without harm to the patient distinguishes the career of NEO-IOPAX as a diagnostic urographic agent. Since 1932, *hundreds of thousands of doses of* NEO-IOPAX have been injected with virtual freedom from serious untoward reactions. No other urographic contrast medium has equalled the safety record of NEO-IOPAX. No agent, experience with which is limited to a relatively small number of patients, can be deemed to be as safe. Because the patient's life and welfare take precedence over all other considerations in diagnostic investigation of the urinary tract, urologists and roentgenologists will continue to rely—as always—on NEO-IOPAX.

Available as a stable, crystal-clear solution of disodium N-methyl-3, 5-diiodo-chelidamate in 10, 20 and 30 cc. ampuls of 50% concentration. NEO-IOPAX 75% concentration in 10 cc. ampuls, box of 5 ampuls; 20 cc. boxes of 1, 5 and 20 ampuls.

Schering CORPORATION·BLOOMFIELD, NEW JERSEY

NEO-IOPAX

SCHERING

THE KANSAS PRESS LOOKS AT MEDICINE

Wavering on Medical Plan

Lyle Wilson predicts that some Democrat congressmen will bolt the administration this year on the Brannan plan and compulsory medical insurance. The latter would cost about 6½ billion dollars in its first year, of which about 1½ billion dollars would come from general taxes, in the opinion of Oscar Ewing, federal security administrator. Wilson says some Democratic candidates are uneasy about the all-out campaign being made for medical insurance and the Brannan plan.

Who wants compulsory medical insurance, anyhow? Proponents of government medical service often argue that the scheme is favored by most of the American people, and that the opposition comes principally from selfish interests which put personal profit above the public welfare.

That position, however, is certainly not supported by the results of a survey made by the Psychological Corporation in 25 cities and towns from coast to coast.

The survey was based on the Wagner-Murray-Dingell bill. The question was, "Which do you favor: (a) to have government give free doctor and medical service which would be paid for by a three per cent payroll tax on all wages under $3,600, or, (b) the present system of medical service?"

Here were the results: 65 per cent favored the present type of medical services; 26 per cent favored government medicine, and nine per cent were uncertain.

Another common argument holds that people in the lower income groups are virtually unanimously in favor of government medicine. Again, the corporation's survey found to the contrary. In that group, only 37 per cent were for it, while 51 per cent were against.

Three years ago a similar survey was made by the same organization, and the results were very similar.—*Kansas City Kansan, June 16, 1950.*

* * *

No Shortage Seen

One of the stock arguments for government regimentation of the practice of medicine is an allegedly severe "doctor shortage." The argument goes on to say that only the government can cure this dangerous situation.

Before accepting that, however, take a look at the cold, hard facts. Today there are 201,534 doctors practicing in the United States—a gain of 26,371 in the last 10 years. Proportionately the medical population is increasing faster than the general population and our medical schools are graduating more doctors than ever before.

Now, this wouldn't mean anything if the number of patients that each doctor must treat, on the average, was too high. But the fact is that there is only one country in the world with a lesser number of patients per doctor than the United States. That nation is little Palestine. It is bulging with Jewish doctors who fled from Europe to escape the persecution of anti-Semitic dictators.

No one states that the doctor situation is perfect here. In some regions there are fewer medical men available than there should be. But this problem is gradually being solved. The medical profession, for instance, is doing a splendid work in encouraging young doctors to make their careers in rural areas.

Finally, what logical reason can there be for believing that more men would be attracted to medicine under a system where bureaucrats and politicians called the tune? The truth is that such a system would make many men turn to other professions and enterprises. Progress flourishes only in an air of freedom.—*Winfield Courier, June 23, 1950.*

* * *

"Doing As Well As Can Be Expected"

If the government takes over the doctors, under its socialized medicine plan, some of the following incidents may take place, according to H. L. Phillips in his column, "The Once Over."

Hank Hooker, who broke his leg last month and phoned the government for a doctor, got a wig today. Stacy Whitfield, who asked treatment for baldness, got the plaster cast intended for Hank....

Abel Hosely, who has been ailing all winter, expects his aches and pains to be assigned for a hearing in early spring... Jed Hull will have his tonsils out as soon as his ward leader processes the correct application blanks.—*Atchison Globe, May 26, 1950.*

* * *

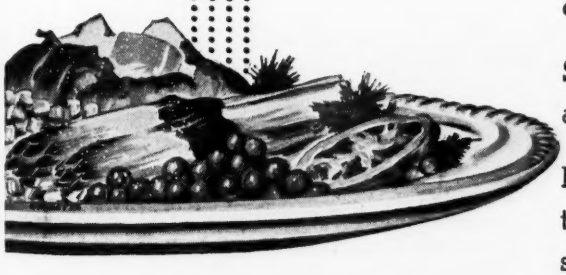
About four cents out of the average U. S. consumer's dollar goes for medical care. The present administration dislikes to see the consumer throw his money about in this fashion and is anxious to at least increase cost if not the care.—*Neodesha Sun, June 26, 1950.*

* * *

The socialized medicine program seems to be losing its effect among the people. After people began to study what the final result of this socialistic program would mean to the people of the nation, they are strongly opposed to such a program which is promoted by a group of politicians and quack physicians.

The more we can discourage such socialistic practices the longer our democratic form of government will stand.—*Fowler News, June 22, 1950.*

SALT without SODIUM



Cardiac failure, renal disease, hypertension, arteriosclerosis, or pregnancy complications call for sodium restriction. But, without seasoning, low sodium diets are difficult to endure.

Salt without sodium: Neocurtasal palatably seasons all foods.

Neocurtasal looks, pours and is used like table salt. Available in convenient 2 oz. shakers and 8 oz. bottles.

WINTHROP-STEARNS

neocurtasal®

Winthrop-Stearns INC. 170 VARICK STREET, NEW YORK, N. Y.

NEOCURTASAL, trademark reg. U. S. & Canada

ABSTRACTS FROM CURRENT LITERATURE

Cardiac Disease in Pregnancy

Cardiac Disease in Pregnancy. By Joseph B. Vander Veer and P. E. Kuo, Am. Heart Jnl., 39:1, 2-16, Jan., 1950.

Obstetric records from 1937 to 1947 at the Pennsylvania Hospital were reviewed to supply data for this study. The cardiac diagnoses were: rheumatic heart disease, 324; hypertensive heart disease, 51; congenital, 18; subacute bacterial endocarditis, two; acute pericarditis, one. Maternal deaths included five in acute congestive failure, four in acute congestive failure with pneumonia, two subacute bacterial endocarditis, one pulmonary embolism and one rheumatic endocarditis.

Death occurred six to 40 hours after delivery with dyspnea, cyanosis and pulmonary edema. The most dangerous time is the first 48 hours postpartum. Half the cases were delivered by low forceps in the second stage. Sixty per cent of the Cesarean sections were done for gynecological reasons.

Hypertensive patients stood repeated pregnancies if toxemia did not occur.

Of those with a congenital cardiac diagnosis, nine patent ductus patients did well. Four with interventricular septal defects did well, but one of the two with coarctation of the aorta died with a ruptured aorta. One patient with pulmonary stenosis developed tachycardia and shortness of breath in her eighth month but was digitalized, had a Cesarean section and did well.

The authors emphasized the importance of estimating functional capacity early. All in Classes I and II except persons with coarctation do well. Those in Classes III and IV, with or without a history of failure, and those with auricular fibrillation should not get pregnant; if they do, they should be aborted before the fourth month. If not seen until after the fourth month, they should be treated for congestive failure: digitalis, low sodium diet and bed rest. Early failure is indicated by a respiratory rate over two times, tachycardia, moist basal rales.

Respiratory infections may quickly convert a Class I or II to a Class III or IV functional capacity.—*P.W.M.*

* * *

Nephrotic Syndrome

Nephrotic Syndrome—Natural History of the Disease. By Lewis A. Barness, Gretchen H. Moll and Charles A. Janeway, Ped., 5:3, 486-503, Mar., 1950.

The records of 208 patients with the nephrotic syndrome seen in the Children's and Infants' Hospitals of Boston from 1926 to 1948 were reviewed.

The main criteria found for differentiating between lipoid nephrosis and the nephrotic stage of chronic glomerulonephritis have been the presence of hypertension or azotemia for longer than one month in patients with the latter disease, which occurs more frequently in children over four years of age. Other features of the two diseases may be indistinguishable. Nonetheless, it is desirable to differentiate between them, as apparently few if any patients recover from the nephrotic syndrome if evidences of glomerulonephritis are clear cut.

Lipoid nephrosis is characterized by the insidious onset of edema in young infants and children, usually between the ages of one and four. Findings include edema, hypoproteinemia, hypercholesterolemia and heavy proteinuria. Blood pressure may be elevated for short periods, but rarely over one month. Microscopic hematuria does not exclude the diagnosis, though macroscopic hematuria is usually evidence of glomerular involvement.

Symptoms and findings in lipoid nephroses may persist for from one to three years without specific therapy. Exacerbations with infection, followed by remissions shortly after the infection, and remission soon after the onset of the disease are relatively common. Prognosis is not related to the number or duration of the exacerbations. Death before 1942 was chiefly due to intercurrent infection. Since 1942, with the advent of sulfadiazine and the newer antibiotics, death from infection has become less common, and has usually occurred at home, presumably because treatment was not promptly instituted.

There is apparently no constitutional defect in these children before the onset of the disease, and growth and development are normal after recovery.

No form of treatment has been found wholly satisfactory. Paracentesis, transfusion and low salt diet are the most common supportive measures used. Antibiotics are valuable during infections and have apparently lowered the mortality of the disease in recent years. Focal sources of infection should be eliminated by operative procedure only when surgical intervention is definitely indicated. Injections of salt-poor concentrated human serum albumin and the induction of measles are being evaluated as methods of inducing diuresis.

In this series approximately one-half of the patients with a clinical diagnosis of lipoid nephrosis have apparently recovered completely without residual disease, while a small number show persistent albuminuria or hypertension. It is hoped that with closer supervision of the patients and with adequate chemotherapy, this figure can be significantly increased in the near future.—*D.R.D.*

POSTGRADUATE COURSE IN PSYCHOSOMATIC MEDICINE

October 30 and 31, November 1, 1950

AT WINTER VETERANS ADMINISTRATION HOSPITAL, TOPEKA

Presented Jointly By the

UNIVERSITY OF KANSAS SCHOOL OF MEDICINE and the MENNINGER SCHOOL OF PSYCHIATRY

FACULTY

SYLVIA ALLEN, M.D., Associate in Neuropsychiatry, K.U.
MAXWELL G. BERRY, M.D., Associate in Medicine, K.U.
RUDOLPH CHESS, M.D., Chief, Medical Services, Winter V. A. Hospital.
MARGARET CRAIGHILL, M.D., Assistant Chief, Psychosomatic Section, Winter V. A. Hospital.
ALLEN ENELOW, M.D., Staff Member, State Hospital, Topeka.
JAN FRANK, M.D., Menninger Clinic.
EDWARD D. GREENWOOD, M.D., Director, Southard School, Menninger Foundation, and Lecturer in Neuropsychiatry, K.U.
MORTON JACOBS, M.D., Associate in Neuropsychiatry, K.U.
KENNETH E. JOCHIM, Ph.D., Professor of Physiology, K.U.
ROBERT J. KINNEY, M.D., Staff Physician, State Hospital, Topeka.
PAUL C. LAYBOURNE, JR., M.D., Associate in Neuropsychiatry, K.U.
KARL A. MENNINGER, M.D., Director of Education, Menninger Clinic, and Clinical Professor of Neuropsychiatry, K.U.
JAMES M. MOTT, JR., M.D., Staff Physician, State Hospital, Topeka.
DON CARLOS PEETE, M.D., Associate Professor of Clinical Medicine, K.U.
ALBERT PRESTON, JR., M.D., Instructor in Neuropsychiatry, K.U.
WM. F. ROTH, JR., M.D., Professor of Neuropsychiatry, K.U.
WM. ROTTERSMAN, M.D., Staff Member, Menninger Clinic, and Lecturer in Neuropsychiatry, K.U.
SIDNEY RUBIN, M.D., Psychosomatic Section, Medical Service, Winter V. A. Hospital, and Lecturer in Neuropsychiatry, K.U.
GEORGE SASLOW, Ph.D., M.D., Associate Professor of Psychiatry, Washington University School of Medicine, St. Louis.
RICHARD L. SUTHERLAND, M.D., Chief, Diagnostic Appraisal Unit, Medical Service, Winter V. A. Hospital, and Instructor in Neuropsychiatry, K.U.
NATHANIEL UHR, M.D., Assistant Chief of Medical Service, Winter V.A. Hospital.

SUBJECTS TO BE DISCUSSED

New Concepts of Disease.
Physician-Patient Relationships.
Demonstration of Patient Interview, with Discussion of Technique and Procedure.
The Language of the Emotions as Observed by the Physician.
The Treatment of Somatic Neurosis in Children.
The Psychosomatic Aspect of Childhood.
Psychological Problems Encountered in Gastro-enterology.
The Psychotherapy of Certain Gastro-Intestinal Disorders.
Psychosomatic Problems of Gastro-Intestinal Illnesses.
Physiological Mechanisms Related to Mental and Physical Stress.
Psychosomatic Aspects of Cardiovascular Disease.
Emotional Factors in Cases Presenting Cardiac Symptoms.
Psychosomatic Aspects of Cardiovascular Disease.
Psychosomatic Medicine and Specialization.
Geriatric Problems (Psychosomatic).
Involutional Problems (Psychosomatic).
Psychosomatic Aspects of Ageing.
Staff Case Presentation—Winter V. A. Hospital.
Ward Visits—Winter V. A. Hospital and State Hospital.
Group Case Discussions.

Woodcroft Hospital—Pueblo, Colorado

A private hospital for the scientific treatment of neuro-psychiatric disorders, including alcoholism and drug addiction. Beautiful landscaping and home-like surroundings afford a restful atmosphere. Accommodations vary from single rooms with or without bath to rooms en suite, allowing for segregation of guests.

Detailed information furnished on request.

Karl J. Waggener, M.D. **Wendell T. Wingett, M.D.**

BOOK REVIEWS

The Merck Manual, Eighth Edition. Published by Merck and Company, Incorporated, Rahway, New Jersey. 1,592 pages. No illustrations. Price $5.00.

This recent edition contains several important and pertinent additions, including chapters on nutritional deficiencies, radiation reactions and injuries, allergies and antihistaminics, psychoneuroses, drug addiction, dental emergencies, prenatal and postnatal care, and the care of the premature infant. A chapter on antibiotic therapy is included which outlines the recent development in therapy with the newer agents. Chapters have also been added which outline the important points about Vitamin B_{12}, Cortisone and ACTH.

The book is provided with a system of thumb indices whereby the various subdivisions may be readily recognized and located. The publication should perhaps find use in medical installations where the library facilities are greatly limited and as a ready reference for persons working in the ancillary medical services.—*R.E.B.*

* * *

Proctology in General Practice. By J. Peerman Nesselrod, M.D. Published by W. B. Saunders Company, Philadelphia. 276 pages, 64 figures. Price $6.00.

This book presents a thorough discussion of the anatomy, physiology, and diagnostic procedures applicable to the anus and lower colon with particular emphasis on the diagnosis and management of diseases in this area. It stresses the value of proctoscopy: "...no really thorough physical examination is complete without adequate proctoscopy" (page 54), an examination whose worth is further testified by the statement (page 48) that in 90 per cent of the diseases involving the colon, some evidence of them will be present on examination with the proctoscope.

There are excellent chapters on hemorrhoidal disease, anal fissue, anal abscess and fistula, pre- and postoperative management of anorectal conditions, anorectal malformations, anal pruritus, and other related topics. Operative techniques including surgical diathermy are discussed under the individual disease heading.

The illustrations are well-done and include proctoscopic photographs. In general the references are limited. The author is a surgeon particularly trained and interested in proctology. He is well-qualified to discuss all phases of this subject.

This book will be welcomed by all surgeons and general practitioners, and should be of value to anyone who desires more than a superficial knowledge of anorectal diseases.—*C.F.K.*

* * *

Textbook of Endocrinology. Edited by Robert H. Williams, M.D. Published by W. B. Saunders Company, Philadelphia. 749 pages, 295 illustrations. Price $10.

This book brings together most of the basic fundamentals of endocrinology. It will probably serve best as a textbook for students. It seems a little too detailed in some respects for the everyday use of the busy practitioner, but it does offer a basic understanding of endocrinology problems and includes in a brief form some of the recent progress in this field. It does not, however, fill the complete requisite of a reference book. Some of the chapters are excellently written and well illustrated.

This reviewer felt that the sections on the adrenal glands and on the testes were superior to other sections. The section on the thyroid gland, written by the editor, does not give proper evaluation of the problem of radioactive iodine, and it appears also that this section is too dogmatic about some of the theoretical aspects of thyrotoxicosis and myxedema, specifically a discussion concerning malignant exophthalmos. It seems also that the section on diabetes mellitus contains too much, and yet not enough biochemistry to make it practical for clinical purposes. The section on the parathyroid glands is interesting, well written and practical.

By and large, this book does seem to fill a definite place between the more detailed reference books on endocrinology and the extremely sketchy handbooks which are available. It should serve a useful purpose.—*E.H.F.*

* * *

Sex Without Fear. By S. A. Lewin, M.D., and John Gilmore, M.D. Published by Lear Publishers, New York. 116 pages, 46 illustrations. Price $3.00.

This brief and easily read cloth-bound volume is dedicated to the married and those about to be. It represents an attempt to present basic information regarding sexual functions and reproductive processes to the laity in a completely understandable yet inoffensive manner. Subject material includes elementary discussions of reproductive anatomy, endocrinology, psychology and physiology. Informative material dealing with the problems of infertility, contraception and the climacteric are included.

This book would be of value to those patients desiring written information in conjunction with the premarital examination and interview.—*T.W.C.*

CLASSIFIED ADVERTISEMENTS

DOCTOR WANTED for rural community. Large thickly populated area, 14 miles to nearest doctor, 16 miles to nearest hospital, 20 miles northeast of Wichita. Write the Journal 31-50.

FOR SALE—F. A. Hardy and Co. 1904 ophthalmometer and adjustable stand, Hobart metal cabinet with 27 small drawers and wooden base, treatment chair, examination chair, table cushion, urinary test cabinet, sterilizer, small oak desk and swivel chair and cushion, heat lamp, electric window cooler, instrument table, etc. Write the Journal 32-50.

THE
W. E. ISLE CO.
1121 GRAND AVE.
KANSAS CITY, MO.
TRUSSES
...Accurately fitted to assure complete protection and greatest possible comfort
ENTIRE SECOND FLOOR TELEPHONE VICTOR 2350

OUR 35th YEAR

AN INSTITUTION OF STRENGTH AND CHARACTER

You modernize constantly the equipment in your office to keep abreast of the times. You have an opportunity to modernize your Collection Department through Midland Service, based on facts—not opinions. It is available to you upon request, and with it goes the assurance it will prove highly profitable to you.

MIDLAND *Finance Corporation*

20 W. 9th St. Bldg. Kansas City, Mo.

THE BROWN SCHOOL

Four distinct units. Tiny Tots through the Teens. Ranch for older boys. Special attention given to educational and emotional difficulties. Speech, Music, Arts and Crafts. A staff of 12 teachers. Full time Psychologist. Under the daily supervision of a Certified Psychiatrist. Registered Nurses. Private swimming pool, fireproof building. View book. Approved by State Division of Special Education.

BERT P. BROWN, DIRECTOR
PAUL L. WHITE, M.D., F.A.P.A.,
MEDICAL DIRECTOR
P. O. Box 4008, Austin, Texas

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000 accidental death	$8.00
$25.00 weekly indemnity, accident and sickness	Quarterly
$10,000.00 accidental death	$16.00
$50.00 weekly indemnity, accident and sickness	Quarterly
$15,000.00 accidental death	$24.00
$75.00 weekly indemnity, accident and sickness	Quarterly
$20,000.00 accidental death	$32.00
$100.00 weekly indemnity, accident and sickness	Quarterly

COST HAS NEVER EXCEEDED AMOUNTS SHOWN.
ALSO HOSPITAL POLICIES FOR MEMBERS' WIVES AND CHILDREN AT SMALL ADDITIONAL COST

85c out of each $1.00 gross income used for members' benefits

$3,700,000.00 Invested Assets — $16,000,000.00 Paid for Claims

$200,000.00 deposited with State of Nebraska for protection of our members

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION
48 years under the same management
400 FIRST NATIONAL BANK BLDG., OMAHA 2, NEBRASKA

Pathology in General Surgery. By Paul W. Schafer. Published by University of Chicago Press, Chicago. 580 pages. Price $17.50

This 580-page book by Dr. Schafer contains 368 color plates of gross and microscopic studies of pathology directly related to the descriptions in the text. It also contains reproductions of many x-ray films correlating the clinical and pathologic studies.

One of the most striking features of this book is the beauty and clarity of the colored illustrations. The arrangement of the illustrations to fit the discussions and descripions of each disease is all that could be desired from the reader's standpoint.

The subjects are well arranged, the printing is excellent, and the bibliography is adequate for an extensive study of each disease. Interest is stimulated by the many references to medical history. The essentials are here without any padding. The correlation between the clinical and pathologic features of disease are clearly presented, making each subject a clinico-pathologic study.

Here is a book for both the surgical clinician and the pathologist. It should stimulate the former to learn more pathology, and the latter to correlate pathology with the clinical aspects of disease. The reviewer has read the book from cover to cover and has no doubts about its value. For the medical student, the beginner in surgery, and the practicing surgeon, it should always be at hand for ready reference.—*T.G.O.*

Film on Nation's Health Previewed

"M.D.—The U. S. Doctor," a documentary film depicting the state of the nation's health, was previewed during the A.M.A. meeting in San Francisco in June. The film will be released nationally in September as part of a new series which will appear in theaters across the nation as "The Reader's Digest on the Screen."

The film records medical progress, pointing out that babies born today will live 18 years longer than those born at the turn of the century. The medical advancements made with antibiotics and the progress in surgical techniques are spotlighted through the material gathered by the Reader's Digest with the collaboration of the A.M.A. During the 39 minutes the film runs there is repeated evidence of the A.M.A.'s contribution to the health of the American people.

ANNOUNCEMENTS

August 28-September 1—Annual Scientific and Clinical Session, American Congress of Physical Medicine, Hotel Statler, Boston, Massachusetts. Full information from American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

September 18-20—Postgraduate Course in Anesthesiology, University of Kansas Medical Center.

September 27—Annual Meeting, American Medical Writers' Association, Elks Club, Springfield, Illinois. Write the Secretary, Dr. Harold Swanberg, 209-224 W.C.U. Building, Quincy, Illinois.

September 27-29—Annual Meeting, Mississippi Valley Medical Society, Elks Club, Springfield, Illinois. Write the Secretary, Dr. Harold Swanberg, 209-224 W.C.U. Building, Quincy, Illinois.

October 12-14—Course in Postgraduate Gastroenterology, National Gastroenterological Association, Hotel Statler, New York City. Full information from Association, Dept. GSJ, 1819 Broadway, New York 23, New York.

October 23-27—36th Clinical Congress, American College of Surgeons, Boston, Massachusetts. Headquarters at Statler and Copley Plaza. Full information from A.C.S., 40 East Erie Street, Chicago 11, Illinois.

October 30-November 1—Postgraduate Course in Psychosomatic Medicine, changed from University of Kansas Medical Center to Winter VA Hospital, Topeka.

October 31-November 3—Annual Assembly, International College of Surgeons, Cleveland, Ohio. Write International College of Surgeons, U. S. Chapter, 511 Terminal Building, Cleveland 13, Ohio.

November 6-10—Postgraduate Course in Obstetrics, Gynecology and Pediatrics, University of Kansas Medical Center.

December 11-13—Postgraduate Course in Therapeutics, University of Kansas Medical Center.

January 8-10—Postgraduate Course in Radiology, University of Kansas Medical Center.

January 29-February 2—Postgraduate Course in Surgery, including Urology, Orthopedics and Industrial Surgery, University of Kansas Medical Center.

February 12-14—Postgraduate Course in Public Health and Preventive Medicine, University of Kansas Medical Center.

February 19-21—Postgraduate Course in Physical Medicine and Rehabilitation, University of Kansas Medical Center.

March 19-22—Postgraduate Course in Internal Medicine, including Psychiatry and Dermatology, University of Kansas Medical Center.

Classified Ad

FOR SALE—G. E. Victor x-ray with developing tank and filing cabinet, excellent condition, $500; Hamilton examining table with matching instrument cabinet, treatment table and sterilizer table, seven chrome chairs with matching table, new microscope, five-ton capacity York air conditioner and many other articles of office equipment. Write the Journal 33-50.

Merck & Mallinckrodt ® Reagents
KLINE TEST ANTIGEN (LAMOTTE)
PYREX LABORATORY GLASS WARE
PIPETTES AND BURETTES
PRECISION EQUIPMENT
HARTMAN-LEDDON SPECIALTIES
LABORATORY SUPPLIES & EQUIPMENT
KANSAS OWNED
Southwest Scientific Corporation
122 S. St. Francis Wichita 2, Kansas

RADIUM & RADIUM D & E
(*including Radium Applicators*)
FOR ALL MEDICAL PURPOSES
Est. 1919
Quincy X-Ray & Radium Laboratories
(*Owned and Directed by a Physician-Radiologist*)
Harold Swanberg, B.S., M.D., *Director*
W.C.U. Bldg. Quincy, Illinois

THE TROWBRIDGE TRAINING SCHOOL

Established 1917

A HOME SCHOOL for NERVOUS and BACKWARD CHILDREN

The Best in the West

Beautiful Buildings and Spacious Grounds. Equipment Unexcelled. Experienced Teachers. Personal Supervision given each Pupil. Resident Physician. Enrollment Limited. Endorsed by Physicians and Educators. Pamphlet upon Request.

1850 Bryant Building **E. HAYDEN TROWBRIDGE, M.D.** **Kansas City, Mo.**

Nationally advertised Surgical Supplies and Equipment have been placed at Topeka, Joplin, Kansas City and St. Joseph for your convenience by —

GOETZE NIEMER CO.

Management by Dr. W. F. Goetze, a member of the American Medical Association, assures intelligent servicing of your orders.

OVER 31 YEARS OF EXPERIENCE

COLLECTING DORMANT ACCOUNTS FOR HOSPITALS AND PHYSICIANS

ALL FUNDS PAID DIRECT TO OUR CLIENT

We prepare and keep all the records—furnish the supplies—do all detail work—pay part of routine postage. The plan is successful and altogether different from anyother. Efficient organization and field men.

READING & SMITH SERVICE BUREAU

1004 Commerce Trust Bldg. Kansas City, 6, Mo.

Deformity Appliances of Quality

Orthopedic and Surgical Appliances
Artificial Limbs

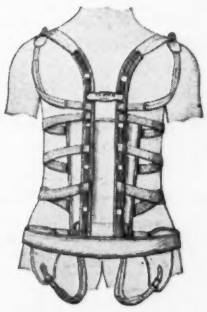
Trusses

Abdominal Supports

Elastic Hosiery

Foot Supports

Surgical Corsets



Taylor Back Brace

Made to Order
In Our Own Factory

P. W. HANICKE MFG. CO.

1009 McGee St. Victor 4750

KANSAS CITY, MO.

Schedule of Post-Graduate Courses at the University of Kansas School of Medicine 1950-51

Sept. 18-20—ANESTHESIOLOGY
Oct. 30-Nov. 1—PSYCHOSOMATIC MEDICINE.
Nov. 6-10—OBSTETRICS, GYNECOLOGY AND PEDIATRICS.
Dec. 11-13—THERAPEUTICS.
Jan. 8-10—RADIOLOGY.
Jan. 29-Feb. 2—SURGERY, including Urology, Orthopedics and Industrial Surgery.
Feb. 12-14—PUBLIC HEALTH AND PREVENTIVE MEDICINE.
Feb. 19-21—PHYSICAL MEDICINE AND REHABILITATION.
Mar. 19-22—INTERNAL MEDICINE, including Psychiatry and Dermatology.
Apr. 16-20—OPHTHALMOLOGY AND OTOLARYNGOLOGY.
Apr. 30-May 3—APPLIED NEUROLOGY.

Continuation Type Courses

Oct. 19-Apr. 19—GENERAL PRACTICE.
(Afternoon & evening sessions, 3rd Thursday of each month)
Jan. 18-Mar. 1—ELECTROCARDIOGRAPHY.
(All-day program on Thursday—6 weeks)
Feb. & Mar.—ROENTGENOLOGICAL PHYSICS.
(One session weekly, day and hours to be determined)
Mar. 22-Apr. 26—DIAGNOSTIC X-RAY AND FLUOROSCOPY.
(All-day program on Thursday—6 weeks)

NOTE: An additional course covering a wide variety of subjects in medicine and surgery will be offered on the circuit plan in eight different centers throughout the state of Kansas. This course will be offered in afternoon and evening sessions at each center, once each month from December to May inclusive. It is open also to doctors of medicine in adjacent states who are conveniently located to any of these centers.

Cook County Graduate School of Medicine

ANNOUNCES CONTINUOUS COURSES

SURGERY—Intensive Course in Surgical Technic, Two Weeks, starting August 21, September 25, October 23.
Surgical Technic, Surgical Anatomy & Clinical Surgery, Four Weeks, starting August 7, September 11, October 9.
Personal Course in General Surgery, Two Weeks, starting September 25.
Surgery of Colon & Rectum, One Week, starting September 11.
Esophageal Surgery, One Week, starting October 16.
Breast & Thyroid Surgery, One Week, starting October 2.
Thoracic Surgery, One Week, starting October 9.
Gallbladder Surgery, Ten Hours, starting October 23.
Fractures & Traumatic Surgery, Two Weeks, starting October 9.
Basic Principles in General Surgery, Two Weeks, starting September 11.
GYNECOLOGY—Intensive Course, Two Weeks, starting September 25.
Vaginal Approach to Pelvic Surgery, One Week, starting September 18.
OBSTETRICS—Intensive Course, Two Weeks, starting September 11.
MEDICINE—Intensive General Course, Two Weeks, starting October 2.
Gastro-enterology, Two Weeks, starting October 16.
Gastroscopy, Two Weeks, starting September 11 and October 23.
Electrocardiography & Heart Disease, Four Weeks, starting October 2.
DERMATOLOGY—Formal Course, Two Weeks, starting October 16.
Informal Clinical Course every two weeks.
UROLOGY—Intensive Course, Two Weeks, starting September 25.
Cystoscopy, Ten Day Practical Course, every two weeks.

GENERAL, INTENSIVE AND SPECIAL COURSES IN ALL BRANCHES OF MEDICINE, SURGERY AND THE SPECIALTIES

TEACHING FACULTY—ATTENDING STAFF OF COOK COUNTY HOSPITAL

Address: Registrar, 427 S. Honore St., Chicago 12, Ill.

THE
MEDICAL PROTECTIVE
COMPANY
FORT WAYNE, INDIANA

Professional Protection Exclusively since 1899

TOPEKA Office:
J. E. McCurdy, Rep.
1160 College Avenue,
Telephone 2-3027

Index to Advertisers

Abbott Laboratories 401
Ayerst, McKenna and Harrison, Ltd. .....Inside back cover
Birtcher Corporation XVI
Brown School 413
Capper Printing Company VIII
Cook County Graduate School of Medicine..... 416
Duncan Laboratories VI
Fleet, C. B., Company, Inc. X
General Electric X-ray Corporation VII
Goetze Niemer Company 415
Hanicke, P. W., Manufacturing Company..... 415
Isle, W. E., Company 413
Kansas Oxygen Division XIV
Lattimore-Fink Laboratories XVIII
Lederle Laboratories, Inc. 403
Lilly, Eli, and Company.....Facing XVIII
Luzier's Cosmetics and Perfumes, Inc. 405
Major Clinic XVII
Mead Johnson and Company .....Back cover
Medical Protective Company 416
Merck and Company, Inc. IX
Midland Finance Corporation 413
Neurological Hospital Association 416
Page Milk Company XIII
Parke, Davis and Company.Inside front cover and III
Physicians Casualty Association 413
Producers Creamery Company XVI
Quincy X-ray and Radium Laboratories 414
Quinton-Duffens Optical Company XIV
Ralph Sanitarium XII
Reading and Smith Service Bureau..... 415
Research Foundation Sanitarium XVIII
Rex Sales Company XVII
Schering Corporation 407
Schmid, Julius, Inc. 399
Searle, G. D., and Company 397
Southwest Scientific Corporation 414
Trowbridge Training School 415
University of Kansas Medical Center.....411 and 415
Upjohn Company V
Wander Company XI
Winthrop-Stearns, Inc. 409
Woodcroft Hospital 411
Wyeth, Inc. XV

The Neurological Hospital, 2625 West Paseo, Kansas City, Missouri, a voluntary hospital providing the care and treatment of nervous and mental patients, and associate conditions.